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ADMINISTRATION REPORT

OF THE

INDIAN STORES DEPARTMENT

FOR THE YEAR

1938-39

PUBLISHED BY THE MANAGER OF PUBLICATIONS, DELHI.
PRINTED BY THE MANAGER, GOVERNMENT OF INDIA PRESS, SIMLA
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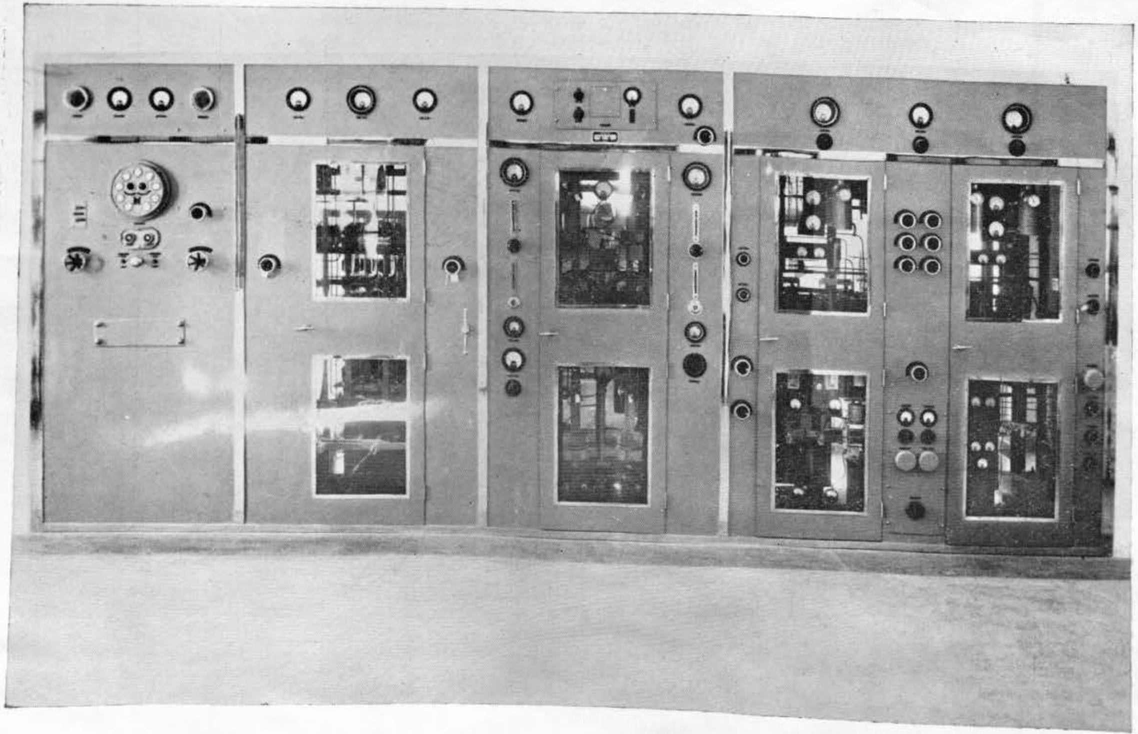
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(*vide* paragraph 27).

ADMINISTRATION REPORT OF THE INDIAN STORES DEPARTMENT FOR THE YEAR 1938-39.

CHAPTER I.

SUMMARY.

General.—The Report of the activities of the Indian Stores Department for the year 1937-38 presented a substantial advance over all previous records in every section of the Department. The value of purchases arranged by the Department had exceeded the previous highest record by more than Rs. 1,40,00,000. The figures of work done in the Inspection Branch had increased by Rs. 33,000 in stores inspected on value and 40,000 tons in those charged on weight. A substantial increase, of about 4,000 tests, was recorded in the number of tests and analyses carried out at the laboratories of the Government Test House and the Metallurgical Inspectorate. It was expected that it would not be possible to exceed these results for some years to come but it is gratifying to be able to record a further advance in every direction in the year under review. These results have been achieved, in spite of the restrictions which were placed on new schemes of expenditure in every Department of Government from the beginning of the year (paragraph 16) and reduction in the general level of prices of many commodities (paragraph 23), which adversely affected the statistics without any reduction in the volume of stores purchased and inspected during the year. A large order for the supply of sand bags for His Majesty's Government (paragraph 22) accounts for the unexpected increase in the work of the Purchase Branch and the Test House. The fact that a large number of orders placed during the preceding year were in the normal course completed during the year under review explains to a large extent the increase in the work of the Inspection Branch.

2. *Activities of the Purchase Branch of the Department.*—The value of orders placed during the year increased from Rs. 7,89,31,378 to Rs. 8,77,11,415, showing an advance of Rs. 87,80,037 or 11·1%. There was a small decline in the number of orders placed, which decreased from 86,148 to 85,922, due chiefly to the powers of Controllers of Stores of State Railways, for direct purchase of stores which they are required to obtain through the Indian Stores Department, having been raised from Rs. 250 to 1,000 (paragraph 20). Full details of the work of the Purchase Branch will be found in Chapter III and Appendices V to IX and XIX.

3. *Activities of the Inspection Branch.*—The total value of stores inspected during the year increased from Rs. 7,48,32,187 to Rs. 8,15,46,633. The value of stores inspected against orders placed by the Indian Stores Department increased from Rs. 6,12,63,700 to Rs. 6,37,48,700, and the value of stores inspected by the Department on behalf of other purchasing authorities increased from Rs. 1,35,68,487 to Rs. 1,77,97,933. The tonnage of stores

inspected and charged on weight decreased from 4,35,609 to 4,17,557. The number of tests and analyses carried out at the laboratories of the Government Test House, Alipore, and the Metallurgical Inspectorate, Jamshedpur, increased from 22,902 to 24,763.

Full details of the work of the Inspection Branch will be found in Chapters IV, V, VI and Appendices X to XVII and XIX.

4. *The operation of the Rupee Tender Rules.*—The Punjab Government introduced their new rules for the purchase of stores with effect from September 1938. The Rupee Tender rules, which make it obligatory on all purchasing departments to obtain their requirements of stores (with certain exceptions) on the condition that they are delivered in India and paid for in rupees in India, are now in force in every Province as well as in all departments of the Central Government.

5. *Indents on the Director General, India Store Department, London, and firms abroad.*—Copies of 2,077 indents of the estimated value of Rs. 1,26,48,840, placed by the Departments of the Central Government and other various Provincial Governments on the Director General, India Store Department, London, or direct on firms abroad, were received for scrutiny during the year, as against 2,326 indents of the estimated value of Rs. 1,27,21,027 examined during the year 1937-38. Demands of the estimated value of Rs. 46,854 were challenged as against Rs. 51,133 during the preceding year.

The following statement shows the result of the examination of indents during the years 1935-36 to 1938-39 :—

Year.	No. of indents examined.	Value of indents examined.	Value of items challenged.	Percentage of value of items challenged to total value of indents.
		Rs.	Rs.	
1935-36	1,416	77,42,267	33,293	0·43
1936-37	1,623	99,62,717	9,493	0·0011
1937-38	2,326	1,27,21,027	51,133	0·401
1938-39	2,077	1,26,48,840	46,854	0·370

The half-yearly lists of stores obtained from abroad were published in the Indian Trade Journal during September 1938 and May 1939, for the information of the commercial and industrial community.

The examination of indents placed on their Home Boards by Railways worked by Companies was continued during the year. Such items of stores included in these indents as could be obtained of Indian manufacture were brought to the notice of the Railway Board, with a view to divert the demands to indigenous sources of supply.

6. *Utilisation of the services of the Indian Stores Department by authorities outside India.*—A noteworthy feature of the activities of the year under review was an order for the supply of sand bags of the value of Rs. 1,92,50,000 placed on behalf of His Majesty's Government, a reference to which has been made in paragraph 1 and further details of which will be seen in paragraph 22. A supply of Iron Charpoys of the value of Rs, 4,437 was also arranged for the Ordnance Services, Malaya Command, Singapore, on behalf of the same authority. The services of the Department were utilised, as in the past years, by the Resident Engineer, Royal Airship Base, Karachi, for the purchase and inspection of diesel and lubricating oils and by the Inspector-General of Police, Singapore, Straits Settlements, for badges, lungies, leatherware and boots. The value of orders placed on behalf of these two authorities amounted to Rs. 3,661 and Rs. 5,173 respectively. Miscellaneous stores of the value of Rs. 1,65,961 were purchased on behalf of the Government of Burma and orders worth Rs. 854 were placed on behalf of the Aden Administration. The Colonial Store Keeper, Ceylon, purchased Diesel oil through the Department of the value of Rs. 3,402.

Tents and tentage of the value of Rs. 11,011 were inspected on behalf of the Palestine Government and cast iron pipes and specials, aggregating 303 tons, were inspected on behalf of the Singapore Municipality. Stores amounting to Rs. 39,379 and 9 tons of castings were inspected on behalf of the Burma Railways.

7. *Financial position.*—The financial result of the working of the Department for the year is exhibited in the Statement of Income and Expenditure prepared by the Audit Officer, Indian Stores Department, which appears as appendix XVIII. The statement shows separately the expenditure on the commercial and non-commercial activities of the Department.

The total (direct and indirect) expenditure on the commercial section of the Department, representing the cost of operations connected with the purchase and inspection of stores, amounted to Rs. 14,65, 941. The fees earned on these operations amounted to Rs. 13,15, 495. The net deficit on the year's working thus amounted to Rs. 1,50,446 only, as against Rs. 2,59,355 during 1937-38, and Rs. 6,00,290 during 1936-37. This remarkable improvement, however, is to a considerable extent due to the special circumstances referred to in para. 1, and must not be taken as representing the result of a normal working year.

The expenditure on the non-commercial section of the account amounted to Rs. 5,54,180 as against Rs. 5,56,986 during 1937-38. The recoveries creditable to this section amounted to Rs. 2,23,103 against Rs. 2,12,928 during the preceding year. The net expenditure for the year, which represents the contribution of the Department towards the encouragement of Indian industries, amounted to Rs. 3,31,077 against Rs. 3,44,058 during the year 1937-38. In addition, an expenditure of Rs. 1,85,630 was incurred for the same object on the Industrial Research Bureau, which is attached to the Indian Stores Department. A report dealing with the activities of the Bureau has been issued separately.

8. *Organization of the Indian Stores Department and procedure in force.*—A brief description of the organisation of the Department, with hints for the guidance of indenting authorities, will be found in Appendix I. Full details are given in a pamphlet entitled " Indian Stores Department—Its Organization and Functions ", copies of which can be obtained by indenting authorities, free of charge, on application to the Chief Controller of Stores.

CHAPTER II.

ORGANISATION.

9. *Changes in the Organisation.*—No important change was made in the organisation of the Department during the year under review.

10. *Organisation at the end of the year.*—The following table shows the number of sanctioned posts in the Department under different classifications at the end of the year.—

	Indian Stores Department.	Industrial Research Bureau.	Total.
Gazetted Officers	67	4	71
Technical subordinates, including Drawing Office Staff	109	26	135
Ministerial staff	398	22	420
Inferior servants	233	21	254
Total ..	807	73	880

The additions to the staff of the Stores Department proper comprised :—

Technical Subordinates	2
Ministerial Staff	4
Inferior Servants	6
	12

In the Industrial Research Bureau three new posts were sanctioned and two posts were surrendered, namely :—

New posts sanctioned.

Ministerial staff	1
Technical subordinates	2
	3

Posts surrendered.

Ministerial staff (Assistant)	1
Technical subordinate (Tracer)	1
	2

A conspectus of the organisation on the 31st March 1939 will be found in Appendix II.

11. *Important changes in Personnel.*—Three European officers and two Indian officers retired and one Indian officer died during the year. One European officer and two Indian officers were recruited and two Indian subordinates were promoted to gazetted rank to fill these vacancies.

Sir James Pitkeathly, K.C.I.E., C.M.G., C.V.O., C.B.E., D.S.O., held charge of the Department during the year, except from the 10th May 1938 to the 23rd June 1938, during which period he was on leave and Mr. R.W. Targett officiated as Chief Controller of Stores. Sir James Pitkeathly's services were transferred to the Defence Co-ordination Department at the close of the year, and Mr. Targett assumed charge as Chief Controller of Stores on the 1st April 1939.

12. *Numbers of European and Indian officers in the Department.*—A graph will be found in Appendix III, showing the progress of Indianization and the proportion of Indians and non-Indians in the gazetted ranks from year to year, since the constitution of the Department in 1922. The numbers of European and Indian officers on the 31st March 1939 stood at 17 and 52 respectively, as against 18 and 52 on the same date in the preceding year.

13. *Facilities for technical training.*—During the year under review one officer was granted facilities for visiting certain steel works and railway workshops in the United Kingdom during his leave.

14. *Recruitment in subordinate technical staff.*—As in previous years, all vacancies were filled by Indians.

15. *Communal composition of the staff.*—The orders of the Government of India regarding the adequate representation of the various communities in the staff of the Department were observed and the communal composition of the staff on the 1st January 1939, as compared with the corresponding date of the previous year, is shown in Appendix IV.

CHAPTER III.

WORK OF THE PURCHASE BRANCH.

16. *General.*—The total value of purchases made by the Department in the year under review amounted to Rs. 8,77,11,415 against Rs. 7,89,31,378 in the previous year, an increase of Rs. 87,80,037, or 11·1%. This includes a special order for two hundred million sandbags on behalf of His Majesty's Government of the value of Rs. 1,92,50,000. Excluding this demand, the total purchases during the year amounted to Rs. 6,84,61,415, or a decrease of Rs. 1,04,69,963, as compared with the purchases made during 1937-38. This is partly due to appreciable recession in prices from the peak levels reached in 1937-38, and partly also to the curtailment of demands due to the prevailing financial stringency.

The volume of work, however, maintained almost the same level, as shown in the following statement :—

Year.	No. of indents received.	No. of orders placed.
1938-39	77,479	85,922
1937-38	78,425	86,148
1936-37	71,317	80,318

An analysis is given below of the distribution of the work throughout the various purchase organisations of the Department :—

Organisation.	No. of indents received.			No. of orders placed.		
	1936-37	1937-38.	1938-39.	1936-37.	1937-38.	1938-39.
Provincial.						
Calcutta Purchase Circle ..	9,059	11,033	7,157	12,738	13,616	10,851
Bombay Purchase Circle ..	2,967	3,701	4,761	5,488	5,869	5,290
Karachi Purchase Circle ..	3,563	4,635	3,969	6,848	7,759	8,288
Total Provincial Circles ..	15,589	19,369	15,887	25,074	27,244	24,429
Total Headquarters ..	55,728	59,056	61,592	55,244	58,904	61,493
Grand Total	71,317	78,425	77,479	80,318	86,148	85,922

Details of the values of orders placed are given in Appendices V to VIII.

17. *Variations in demands.*—The following statement shows the fluctuations in the values of orders placed on behalf of various indenting authorities, as compared with the corresponding figures of the preceding year :—

Indenting authorities.	Value of orders during		Increase + Decrease —	Percentage increase + Decrease —
	1937-38.	1938-39.		
Central—Defence	1,88,98,218	1,19,43,540	—69,54,678	—36·8
Central—Civil ..	71,84,310	56,80,284	—15,04,026	—20·9
Railways, State-managed ..	3,89,14,155	3,83,52,144	—5,62,011	—1·4
Railways, Company-managed	7,71,416	8,39,435	+68,019	+8·8
Railways managed by Indian States	11,64,251	13,58,145	+1,93,894	+16·7
Total—Railways ..	4,08,49,822	4,05,49,724	—3,00,098	—0·7
Provincial Governments ..	82,09,244	74,76,601	—7,32,643	—8·9
Indian States	5,79,816	5,24,338	—55,478	—9·6
Quasi-public bodies	29,25,287	21,03,440	—8,21,847	—28·1
British and Colonial Governments	2,84,681	1,94,33,488	+1,91,48,807	+6726·4
Grand Total	7,89,31,378	8,77,11,415	+87,80,037	+11·1

18. *Purchases on behalf of the Defence Department.*—The value of stores purchased for the Army, Royal Air Force and other Defence authorities amounted to Rs. 1,19,43,540, which represents a decrease of Rs. 69,54,678, or 36·8%, on the previous year's figure of Rs. 1,88,98,218.

The value of textile stores purchased was Rs. 46,49,098, as against Rs. 1,12,55,389 in the previous year. It may be explained that abnormally heavy purchases were made during the two previous years on account of operations on the Frontier. The decline in the prices of woollen materials by about 20% has also contributed to the lower total.

The value of Engineering Stores purchased was Rs. 72,94,442 as against Rs. 76,42,829 during the previous year.

19. *Purchases on behalf of Civil Departments of the Central Government.*—The stores purchased for Civil Departments of the Central Government decreased

in value from Rs. 71,84,310 to Rs. 56,80,284. The fall is attributable to the following causes :—

(1) The annual demand from the Posts and Telegraphs Department for electrical stores for 1938-39 was received in advance and orders were placed in March 1938, whereas the indents for 1939-40 were received late in March 1939 and orders could not be placed before the close of the financial year. The purchases on behalf of the Posts and Telegraphs Department consequently decreased by Rs. 8,48,000.

(2) In 1937-38 special purchases of Broadcasting Equipment were made for the All-India Radio, costing about rupees five lakhs, whereas the purchases for that Department during the year under review amounted to rupees three lakhs only.

(3) The purchases for the Central Public Works Department decreased from Rs. 6,56,920 to Rs. 4,97,627.

20. *Purchases on behalf of Railway Administrations.*—The stores purchased for State-managed Railways during the year amounted to Rs. 3,83,52,144, showing a decrease of Rs. 5,62,011 or 1·4%, on the previous year's figure of Rs. 3,89,14,155. Purchases for Company-managed Railways increased from Rs. 7,71,416 to Rs. 8,39,435, and those for Railways managed by Indian States from Rs. 11,64,251 to Rs. 13,58,145, showing an increase of Rs. 1,93,894 or 16·7%.

In paragraph 22 of the Report for the year 1937-38 it was mentioned that, as a result of the meeting with the Railway Board, 28 items had been added to the list of requirements of State Railway Administrations, the purchase of which was entrusted to the Indian Stores Department.

The list has been further expanded by the addition of the following classes of stores :—

(1) Axles.

(2) Brass rods and bars.

(3) Bronze rods and bars.

(4) Chains, iron, steel, brass etc.

(5) Composition, flooring.

(6) Copper ingot.

(7) Copper rods.

(8) Copper tubing.

(9) Drawgear.

(10) Fishplates, compound.

(11) Jacks.

(12) Lamps and fittings, pressure. (Petromax, Washington, Coleman, Kitson, etc.)

(13) Locomotive parts and fittings (all except complete locomotives and locomotive boilers).

(14) Signalling and interlocking Material (all except colourlight and electro-pneumatic equipment).

(15) Tyres.

The limit up to which State Railway Administrations are authorised to purchase stores included in the list referred to, without reference to the Indian Stores Department, was raised during the year under review from Rs. 250 to Rs. 1,000 (except in regard to stores for which Rate or Running Contracts have been arranged by the Indian Stores Department). As a result of this decision there was some reduction in purchases of stores required in small quantities, which specially affected the turn over of the Provincial Purchase Circles at Calcutta and Bombay, but the Railway administrations endeavoured to transfer other items of stores, required in larger quantities, to the Indian Stores Department, and the total purchases on behalf of State Railways were therefore not materially affected.

21. *Purchases on behalf of Provincial Governments.*—The total of these purchases amounted to Rs. 74,76,601, as against the previous year's figure of Rs. 82,09,244, showing a decrease of Rs. 7,32,643, or 8·9%. Larger purchases were made on behalf of the North West Frontier Province, Orissa and Bengal but the values of purchases on behalf of Bombay, the United Provinces, the Punjab, the Central Provinces, Assam, Madras, Bihar and Sind were less than in the previous year.

22. *Purchases on behalf of the British and Colonial Authorities.*—The value of purchases on behalf of the British and Colonial authorities rose from Rs. 2,84,681 to Rs. 1,94,33,488, an increase of Rs. 1,91,48,807. This is due to an order for 200 million sandbags placed on behalf of His Majesty's Government of the value of Rs. 1,92,50,000, referred to in paragraph 16. Special arrangements were made for handling this large order, which has been of considerable assistance to the jute industry in India at a critical time in its history.

23. *Effect of price levels on the turn-over of the Department.*—The following list shows the fluctuations in the prices of certain classes of stores purchased by the Department :—

Name of article.	Average percentage decrease in prices as compared with 1937-38.
Textiles.	
Socks	28·94
Serge blue, medium	21·88
Jerseys	21·73
Durries, Army (6′×3′)	21·59

Name of article.	Average percentage decrease in prices as compared with 1937-38.
Serge, Service Dress	19·06
Cloth, Drab mixture, Woollen	18·01
Flannel, silver grey	13·33
Postal bags, jute, canvas	9·19
Canvas, flax	8·36
Paulins, flax	7·14
Drill, blue	3·70
Drill, khaki	2·73
Drill, bleached	2·50
Sheets, barrack	1·66
Engineering and miscellaneous Stores.	
Spring steel	23·97
Wire, mild steel	19·00
Copper wire, plates, etc., made of electrolytic copper	18·00
Glass (mirror)	14·20
Cement	15·00
Asbestos cement sheets	10·30
Rolling rings, vacuum brake	10·00
Paint, white lead	9·40
Tyres, bicycle	8·7
Turpentine, genuine	8·5
Cooking ranges, "Africander"	7·1
Electrodes	5·9
Hose pipes	5·8
Mild Steel Sections	4·48
Poles, steel, tubular	4·3
Paint, red, lead	2·84
Tallow	1·18
Oil, kerosene	1·13

Name of article.	Average percentage increase in prices as compared with 1937-38.
Engineering and miscellaneous Stores.	
Tool steel	30·21
Charpoys, iron	25·40
Pig iron	18·00
Cables, flameproof and loco. headlight	17·20
Tar, crude	15·40
Tyres, steel	14·00
Oil, linseed, double-boiled	13·30
Axles	12·30
Paint, black	11·70
Enamel, white	8·55
Fans, electric	7·00
Bituminous solution, black	6·50
Cables, V. I. R., insulated	6·30
Cylinders, 24″ V. B.	5·40
Oil, diesel	4·89
Oil, castor	3·76
Cells, inert and dry	3·60
Cooking ranges " Fortress "	3·31
Piston rods V. B.	2·60
Boiler and flue tubes	2·50
Oil, cylinder	2·25
Oil, linseed, raw	2·10
Fire clay	1·96

24. *Purchase of textiles and leather goods.*—During the year the total value of purchases of textiles and leather goods amounted to Rs. 2,88,19,446, against the previous year's total of Rs. 1,58,13,144. Thus there was an increase of Rs. 1,30,06,302, or 82·25%. The purchases comprised :—

Items.	1937-38.	1938-39.
	Rs.	Rs.
Cotton goods	70,35,413	50,70,845
Wollen goods	75,49,171	31,40,261
Jute, flax etc.	10,30,592	2,03,22,156
Leather goods	1,97,968	2,86,184
Total	1,58,13,144	2,88,19,446

The purchases on behalf of the Railway administrations increased from Rs. 23,46,963 in 1937-38 to Rs. 29,52,948. Purchases for the Defence Department declined from Rs. 1,12,55,389 to Rs. 46,49,098, and for Provincial Governments from Rs. 10,40,088 to Rs. 8,70,280. Of the total purchases of textiles, allied stores and leather goods amounting to Rs. 2,88,19,446, articles of indigenous manufacture amounted to Rs. 2,83,64,460, and imported stores amounted to Rs. 4,54,986 only. The proportion of indigenous and imported stores thus stood at 98·42 and 1·58 during the year, as compared with 95·73 and 4·27 in 1937-38. The figures under jute, flax, and other items have been considerably augmented by the value of sandbags referred to in paragraphs 16 and 22 above.

Details of important purchases of articles of indigenous manufacture are given in paragraph 70.

25. *Details of important purchases of textiles and leather goods.*—The more important purchases made during the year were :—

	Rs.
Bags, sand, jute	1,92,50,000
Cotton waste	9,99,000
Drill, cotton	9,96,000
Tents and tent components	6,89,000
Flannel	5,59,000
Blankets and cloth blanketting	4,93,000
Jerseys, Waistcoats, Vests and Banians	4,83,000
Garments, made up	4,33,000
Socks, stockings, gloves, etc.	3,54,000
Pugree cloth, dyed and bleached	3,44,000
Greatcoats and greatcoat cloth	3,22,000
Paulins, flax, jute, hemp, etc.	3,05,000
Putties, cotton and woollen	2,50,000
Serges	2,49,000
Canvas, cotton, hemp and flax	2,39,000
Wool, cotton, absorbent	2,34,000
Dhoti cloth, long cloth, bandage cloth and dosuti cloth	1,80,000
Sheets, barrack and hospital	1,36,000
Leather cloth and linoleum	1,21,000
Rugs, horse	1,16,000
Bags, Postal (jute, flax, leather, etc.)	1,10,000
Dust shields, leather, for axle boxes	1,10,000
Capes, coats and hoods, waterproof	1,01,000
Durries	93,000

	Rs.
Tape and webbing	93,000
Hides and skins and leather accoutrements ..	88,000
Duck cotton	84,000
Twill, cotton	84,000
Netting, mosquito	72,000
Boots, shoes etc.	71,000
Ropes, head and heel, manilla etc.	67,000
Cloth, jaconet etc.	66,000
Carpets	64,000
Cordages, cotton, hemp etc.	61,000
Cloth, cotton, cord	58,000

26. *Purchases of engineering, hardware and miscellaneous stores.*—The total purchases during the year amounted to Rs. 5,88,91,969, against the previous year's figure of Rs. 6,31,18,234, a decrease of Rs. 42,26,265 or approximately 6·7 per cent.

The following table shows the extent to which engineering and miscellaneous stores were purchased on behalf of the various authorities utilising the services of the Department.

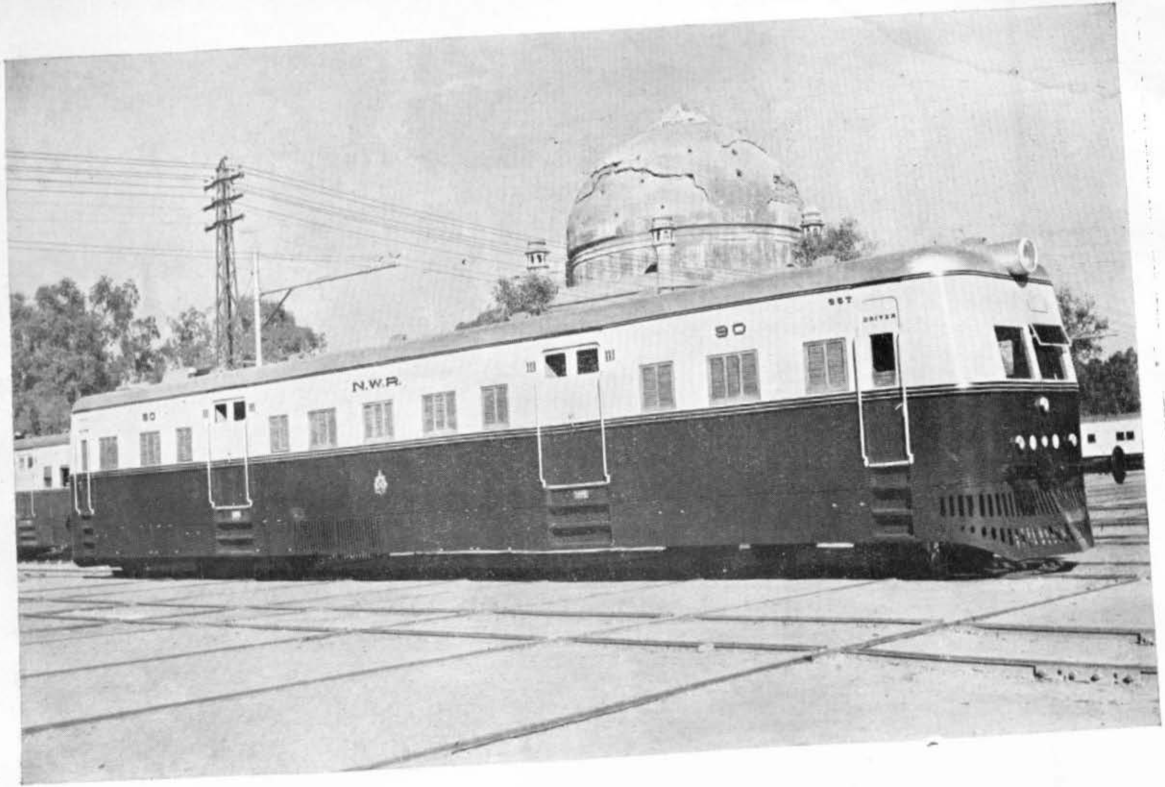
Indenting Authorities.	1937-38.	1938-39.	Difference.
	Rs.	Rs.	Rs.
Central—Defence	76,42,829	72,94,442	—3,48,387
Central—Civil	62,11,596	47,43,615	—14,67,981
Railways, State-managed	3,66,79,325	3,55,44,589	—11,34,736
Railways, Company-managed ..	6,88,835	7,39,525	+50,690
Railways managed by Indian States ..	11,34,699	13,12,662	+1,77,963
Provincial Governments	71,69,156	66,06,321	—5,62,835
Indian States	5,72,088	5,11,583	—60,505
Quasi-public bodies	29,09,258	20,93,317	—8,15,941
British and Colonial Governments ..	1,10,448	45,915	—64,533
Total ..	6,31,18,234	5,88,91,969	—42,26,265

The value of engineering and miscellaneous stores wholly or partially manufactured in India, for which contracts were placed during the year, amounted to Rs. 2,74,16,677, representing 46·55 per cent. of the total value of purchases during the year, as against 45·16 in the year 1937-38.

27. *Details of important purchases of engineering and miscellaneous stores.*—The more important purchases of engineering and miscellaneous stores made during the year were :—

	Rs.
Axles, tyres, wheels, screw couplings, underframe parts etc., for Railway wagons and locomotives ..	62,80,000
Oil, fuel and lubricating, including greases	53,44,000
Railway permanent way material and fittings	49,74,000
Mild steel sections, plates and sheets	47,59,000
Boilers and spares, including loco boilers and spares	24,37,000
Road dressing materials	24,25,000
Tools including track tools, hand tools, pneumatic tools, workshop machines and other tools ..	22,61,000
Cables, conductors and transmission line material ..	22,04,000
Motor vechicles and spare parts	21,95,000
Paints, enamels, varnishes, including Turpentine, Rosin and Bituminous solution	21,16,000
Cement	16,62,000
Cells, electric, primary and secondary and spare parts	11,06,000
Pig iron	11,00,000
Steel structures, tanks and stagings	10,46,000
Lamps, electric	10,08,000
Fans, electric	10,08,000
Pipes and specials, cast iron	8,14,000
Vacuum brake fittings	6,45,000
Coal	5,89,000
Bolts, nuts and rivets	5,77,000
Signalling and Interlocking material	5,44,000
Electrical fittings and miscellaneous electrical stores, including electrical meters	5,32,000
Pipes and fittings, mild steel, and galvanised iron ..	5,31,000
Dynamos, train lighting and spares	5,26,000
Sheets, M.S., galvanised	4,92,000

	Rs.
Gas, oxygen, acetylene etc.	4,47,000
Acids and chemicals	3,70,000
Wire, galvanised iron	3,52,000
Engineering plant, machinery and spares	3,41,000
Oil, linseed	3,36,000
Furniture, steel	2,19,000
Bricks, fire and fireclay	2,91,000
Tyres and tubes, rubber	2,69,000
Generating sets	2,39,000
Petrol	2,32,000
Pumping sets and spares	2,27,000
Road rollers and road making equipment	2,00,000
Dragline excavators and dredgers	1,91,000
Pig lead	1,83,000
Electrodes	1,78,000
Fencing materials	1,73,000
Creosote	1,72,000
Steel, spring and tool	1,63,000
Meters, water	1,60,000
Miscellaneous water supply fittings	1,48,000
Cranes, lifts and hoists	1,46,000
Explosives	1,43,000
Broadcasting equipment	1,41,000
Timber	1,39,000
Engines and spares	1,37,000
Zinc ingots	1,34,000
Pipes, asbestos, cement	1,31,000
Weighing machines and weighbridges	1,22,000
Pipes, Hume	1,20,000
Belting	1,15,000
Wire ropes	1,11,000
Hoses, I.R., canvas and Pneumatic	1,11,000
Wood screws	1,09,000
Sheets, asbestos cement and accessories	96,000



Diesel Rail Car—North Western Railway

(*vide* paragraph 27).

	Rs.
Bearings, Ball and roller	90,000
Roofing materials	85,000
Division plates	84,000
Cooking ranges and spares	82,000
Antimony	80,000
Sanitary fittings	79,000
Fire extinguishers	77,000
Beacons and floodlights	75,000
Fittings, door and window	69,000
Copper ingots	61,000
Crucibles	59,000
Transformers	55,000
Sheet piling, steel	55,000
Cotters and split pins	55,000
Graphite and Plumbago	54,000
Soaps	53,000
Locks	52,000
Fog signals	51,000

The Diesel Rail Cars ordered for the North Western Railway during the year 1937-38 at a cost of Rs. 14,20,000 were delivered during the year under review and have been put in service. A photograph of one of these Cars faces this page. The orders for the Broadcasting equipment placed during the year 1936-37, which included four Marconi 5 K.W. Medium Wave Transmitters of the value of Rs. 3,58,181 for the Lahore, Lucknow, Trichinopoly and Dacca stations, were also completed during the year under review. A Photograph of one of the transmitters appears as frontispiece.

28. *Distribution of Purchases.*—The statistics exhibited in Appendix VIII give details of distribution of the contracts placed by the Department among the various provinces and Indian States. It will be observed that the business transacted by the Department continues to be widely distributed throughout the country.

29. *Rate and Running Contracts.*—Particulars of the rate and running contracts concluded during the year are shewn in Appendix IX. These contracts extend the benefits of rates obtained for bulk supplies to indentors ordering small quantities and are widely used.

30. *Work done by Provincial Circles.*—The total value of purchases made during the year by the Provincial Purchase Circles of the Department at Calcutta, Bombay and Karachi amounted to Rs. 78,46,228, as compared with Rs. 97,07,328 during 1937-38, or a decrease of 19·2 per cent. The total

number of indents received decreased from 19,369 to 15,887 and the number of contracts placed from 27,244 to 24,429. The reduction occurred in the Calcutta and Bombay circles and is chiefly due to the limit of powers of Controllers of Stores of State Railways to purchase direct stores ordinarily obtained through the Indian Stores Department having been raised from Rs. 250 to Rs. 1,000 in any one case, as stated in paragraph 20.

31. *The Calcutta Purchase Circle.*—The total value of stores purchased by this Circle was Rs. 47,45,880, as compared with Rs. 63,27,241 during the previous year, showing a decrease of Rs. 15,81,361, or about 25 per cent. Seven thousand one hundred and fiftyseven indents were received, and 10,851 orders were placed by the Circle during the year, as against 11,033 indents and 13,616 orders during the year 1937-38.

The capacities of 103 firms, who applied for registration, were investigated during the year, of which 70 were registered as approved contractors.

32. *The Bombay Purchase Circle.*—The total value of stores purchased by this Circle was Rs. 15,18,947, as compared with Rs. 19,07,692 during the previous year, a decrease of Rs. 3,88,745, or 20·4 per cent. Four thousand seven hundred and sixtyone indents were received and 5,290 orders were placed by the Circle, as against 3,701 indents and 5,869 orders during 1937-38.

Applications for registration were received from 67 firms, of which 52 were reported on favourably.

33. *The Karachi Purchase Circle.*—The total value of stores purchased by this Circle was Rs. 15,81,401 as compared with Rs. 14,72,395 during the previous year, an increase of Rs. 1,09,006 or 7·4 per cent. Three thousand nine hundred and sixtynine indents were received and 8,288 orders were placed by the Circle during the year, as against 4,635 indents and 7,759 orders during 1937-38.

Twenty firms applied for registration, only one of which was however considered suitable for addition to the approved list.

CHAPTER IV.

Work of the Inspection Branch.

Administrative Inspection Branch at Headquarters.

34. *General.*—The main work of this Branch is the preparation and revision of specifications and schedules of requirements, technical scrutiny of engineering indents and schemes and work connected with the standardization and standards and specification committees of Railways and technical supervision of the work of the provincial Inspectorates. Other important functions of the Branch include preparation and issue of drawings, standardization, custody and control of samples, work relating to development of indigenous products and technical advice to Purchase and Intelligence Branches of the Department.

35. *Specifications.*—The preparation and revision of specifications was continued throughout the year. Five new specifications were framed and 32 were revised. In addition to these, 24 draft specifications were prepared or revised, although they have not been standardized. Besides the preparation and revision of I. S. D. specifications, 12 specifications were scrutinised for the Central Standards Office for Railways, Railway Board, and two for the British Standards Institution.

A list of the I. S. D. specifications which were current at the end of the year 1938-39, is given in Appendix X. The specifications placed on sale are indicated in the appendix. Lists of these specifications are obtainable gratis and copies of the specifications can be had, on payment of annas 8 or 10*d.* per copy, from the following offices :—

(1) Office of the Manager of Publications, Civil Lines, Delhi.

(2) Office of the Chief Controller of Stores, Indian Stores Department, New Delhi.

(3) Inspectorates of the Indian Stores Department at Calcutta, Bombay, Karachi, Lahore, Cawnpore and Madras.

(4) Office of the High Commissioner for India, Publications Branch, India House, Aldwych, London, W. C. 2.

The Inspection Branch at Headquarters is also entrusted with the custody and keeping up-to-date of master copies of Army textile specifications and drawings. The number of such specifications and drawings at the end of the year was 552, as against 451 at the end of the previous year.

36. *Schedules of Requirements.*—During the year under review, 185 schedules of requirements were prepared, as against 246 in the previous year. Some of the more important schedules of requirements prepared and issued during the year are detailed below :—

1. Two Aeroplane hangars for Royal Air Force Station, Peshawar.
2. A 20-ton steam crane (Railway breakdown type) for the Eastern Bengal Railway.

3. Electrically operated sewage pumping installation at Delhi.
4. High Tension Rectifier units, complete with transformers and switchgear, for the New Delhi Municipal Committee.
5. Two passenger lifts for the New Legislative Assembly Chamber, Lahore.
6. Complete oil gas plant for the Animal Nutrition Section, Imperial Veterinary Research Institute, Izatnagar.
7. Fire Alarm apparatus for the Quetta Municipality.
8. Apparatus and equipment required for the conversion of five attended traction sub-stations to unattended sub-stations for the Great Indian Peninsula Railway.
9. Laundry machinery for Deputy Chief Engineer, Reconstruction, Quetta.
10. Crude oil engine driven launch for the Executive Engineer, Rasul Headworks Division, Lower Jhelum Canal.
11. Equipment for reclamation and manufacture of Locomotive and Carriage and Wagon alloys for the North Western Railway.
12. Well drilling rig and equipment for the Military Engineer Services.
13. Cement testing apparatus for the Chief Engineer, Eastern Command.
14. Textile machinery for the Director of Industries, Punjab.
15. A 75 K. W., D. C. Diesel engine driven generating set for the Bahawalpur State.
16. Three 50 K.W. diesel engine driven alternators and complete power house equipment for the Commander Royal Engineers, Sind (Independent) Brigade Area, Karachi.
17. A bogie petrol tank wagon for the Jodhpur Railway.
18. Steam raising plant for the Delhi Central Electric Power Authority Ltd.
19. Four—2 ton steam coaling cranes for the East Indian Railway.
20. An A.C. electrically driven pumping set (12,000 G.P.M. capacity) for the Superintending Engineer, Delhi Province, Public Works Department, New Delhi.
21. A launch (steam or diesel engine driven) for the Central Excises and Salt Department, Northern India.
22. An 8,000 K.V.A., 6,600 volts turbo alternator set, condensing plant and auxiliaries for the Delhi Central Electric Power Authority Ltd.

23. Three welded steel petrol tanks for the Commander Royal Engineers, Lahore District.

24. A power driven "Aquatole" water elevator for Quetta Reconstruction.

25. Steam disinfector furnace, heated type, for the disinfection block at the Civil Aerodrome at Dum Dum.

26. A 200 K.V.A. transformer H. T. Cubical and L.T., Switchboard for Electrical Division, Central Public Works Department, New Delhi.

27. Disinfecting chambers and vertical boilers for the Commander Royal Engineers, Waziristan District.

37. *Standardirzation.*—During the year steady progress was maintained in the direction of standardization of stores purchased by the Indian Stores Department on behalf of Railway administrations and other Government departments.

Close liaison between the Central Standards Office of the Railway Board and the Inspection Branch of the Department was maintained and there was complete co-operation between the two organizations in all matters relating to standardization of railway stores purchased through the agency of the Department. The Deputy Director of Inspection, in charge of the Inspection Branch at Headquarters, attended the meetings of the Electrical Standards and Stores Committees held during the year.

The Inspection Branch at Headquarters also maintained close contact with other departments and institutions issuing specifications, with the object of unifying standards as far as feasible and, where necessary, modifications were suggested in order to make the specifications suitable for Indian conditions.

Some of the articles in respect of which standardization work was carried out in consultation with the Central Standards Office for Railways and other indenting departments during the year are :—

Tape cotton for sealing wagons ; paulins ; garments, rubber, waterproof ; camp bags for Posts and Telegraphs ; waistcoats, cardigan, khaki, worsted ; hoses ; skin wash or chamois leather ; leather for hydraulic cups and trimming worsted for use in oil cups on locomotives.

38. *Preparation or scrutiny of technical schemes and advisory work.*—During the year twentyone enquiries asking for technical advice and other particulars were received and dealt with.

39. *Custody and Control of samples.*—A section of the Inspection Branch at Headquarters is entrusted with the work of receipt, classification, storage and issue of samples received against invitations to tender and those obtained for development and standardization purposes. It dealt with 9,840 samples during the year as against 10,024 samples in the previous year.

40. *Drawing Office.*—There was an appreciable increase in the work connected with drawings required for the purchase and inspection of stores. One thousand two hundred and sixteen Indian Railway Standard drawings and 916 amendments were received from the Central Standards Office for Railways, as compared with 1,165 drawings and 740 amendments in the previous year.

As in the case of Indian Stores Department standard specifications, a list of Indian Stores Department standard drawings is issued periodically. The lists are supplied gratis on application. Copies of the drawings are obtainable from the Headquarters office of the Indian Stores Department on payment.

During the year 60 drawings, 80 tracings and approximately 78,300 square feet of ferro and other prints were made in the Drawing Office, as against 55 drawings, 85 tracings and approximately 63,000 square feet of ferro and other prints in the preceding year.

41. *Erection-at-site orders.*—These orders are for plant and machinery, the erection of which at site is carried out by the contractor supplying the equipment.

Seventyfour orders of this nature were placed during the year, aggregating in value Rs. 16,25,116, as against fiftyfour orders, valued at Rs. 19,71,234, in 1937-38.

Some of the more important orders dealt with during the year were as follows :—

	Rs.
1. Machine tools for the North Western and Eastern Bengal Railways and Superintendent, Telegraph Workshops, Calcutta	8,43,850
2. Crane, jib, travelling, for the Eastern Bengal Railway	1,05,980
3. Ground lighting and automatic beacon equipment for the Director of Civil Aviation in India ..	83,706
4. Pumping sets for the Public Works Department, New Delhi and Commander Royal Engineers, Lahore	64,991
5. Steel water tanks and stagings for Commander Royal Engineers, Lahore District	51,904
6. High production slotter and slot Hydromil for the Eastern Bengal Railway	41,822
7. Rectifier units for Electrical Engineer, New Delhi Municipal Committee	39,105
8. Air-conditioning equipment for the All India Radio	31,040
9. A Diesel Oil Engine for the Northern India Salt Department, Khewra	28,839

42. *Arrangements for Inspection of Materials in the Country of Origin.*—Arrangements were made, as in the past, for inspection of stores by the Director General, India Store Department, London, where inspection during manufacture or before despatch from the country of origin was considered necessary.

These arrangements assist the commercial community in India in competing for stores to be specially imported from abroad and enable the manufacturing concerns to take up orders for the satisfactory completion of which imported components or raw materials are necessary, as the latter can be inspected in the country of origin, thus eliminating the risk of their rejection on arrival in India and consequent loss and delay.

An important feature of the arrangement is that the importation of materials from abroad against contracts handled by the Department is effectively controlled, because steps are taken to ensure that inspection is not undertaken if materials of a suitable quality can be produced in India.

Arrangements have been in force for some years past, further to assist the commercial community in India, for inspection by the Director General, India Store Department, London, of stores which they may desire to import to meet future demands from stocks in India. These arrangements have been made specially to enable the firms in India to supply those classes of railway materials which can be purchased only on proof of inspection in the country of manufacture by an inspecting officer appointed by the Government. Under these arrangements a firm wishing to import such materials has only to apply to the local Inspectorate of the Indian Stores Department, at a port, in a prescribed form in which full particulars of the material to be inspected are specified. On receipt of the application, arrangements are made by the Department, for inspection in the country of origin, through the Director General, India Store Department, London. If the stores comply with the prescribed specifications and are regarded as suitable, a certificate is issued by the Director General to the London agents of the firm, and a copy is forwarded to the Inspectorate of the Indian Stores Department at the port of landing. When the sale of the certified material takes place, application for release of the material is made to the Inspectorate and a release memo is issued after verifying that the material is actually covered by the certificate referred to by the firm. An account of the material issued under this procedure is maintained, and steps are taken to ensure that only certified material is issued. A charge of 1½ per cent. of the f.o.b. price of the stores inspected is made by the Director General, India Store Department, for stores inspected in Great Britain, and 2½ per cent. for those inspected on the Continent of Europe, subject to a minimum of £2-10*s.* in the former and £5 in the latter case. No charge is made by the Indian Stores Department for the services rendered by the Department under this arrangement, which was introduced to encourage importers to hold stocks in India, but it has to be recorded that the commercial community have not availed themselves to any considerable extent of the facilities. Only four requests (three through the Calcutta Inspection Circle, and one through the Karachi Inspection Circle) were received for pre-inspection of materials under these arrangements during the year under review.

Provincial Inspection Circles.

43. *Work done by the Provincial Inspection Circles.*—The total value of stores inspected and passed by the Provincial Inspectorates during the year, and charged on value, aggregated Rs. 7,98,53,688 and the tonnage of materials charged on weight amounted to 66,648 tons, as against Rs. 7,26,51,227 and 64,060 tons in the preceding year.

The value of stores inspected against orders placed by the Department was Rs. 6,20,94,503, as against Rs. 5,90,90,222 in the previous year, while, the value of orders placed by other authorities, the inspection of which was entrusted to the Department, increased by Rs. 41,98,180, that is from Rs. 1,35,61,005 to Rs. 1,77,59,185.

The total number of orders (charged on value), received for inspection, decreased from 74,762 to 72,062 and their value from Rs. 8,39,32,729 to Rs. 6,83,85,795.

Full details of the work done are given in the sub-joined paragraphs and in Appendices XI to XIV.

44. *The Calcutta Inspection Circle.*—The year under report shows a fall, both in the number and value of orders dealt with in this Circle, as compared with the preceding year. The number of orders received for inspection declined from 32,667 to 30,439 and their value from Rs. 5,17,24,544 to Rs. 3,71,48,379. The decrease related to the orders placed by the Indian Stores Department, due to the financial restrictions placed on the activities of the spending departments of the Central Government.

The value of stores inspected against orders placed by authorities other than the Indian Stores Department, and charged on value, increased from Rs. 1,27,08,044 during the previous year to Rs. 1,71,18,449 in the year 1938-39, an increase of 34·7 per cent.

Three thousand three hundred and fifteen wagons and underframes, valued at Rs. 1,50,32,560, were inspected during the year, against 2,611 wagons and underframes, valued at Rs. 1,13,02,092, inspected in the previous year. Orders inspected on a tonnage basis also show an increase over those of the previous year, the total tonnage aggregating 64,626 as against 62,674 in the preceding year. The Mysore Iron Works, Bhadravati, received an order for the supply of 2,700 tons of pipes from the Salem Municipal Council, Madras, subject to the condition that the pipes were inspected by the Indian Stores Department. Special arrangements were made, at the request of the firm, to depute an Inspecting Officer to Bhadravati for the purpose and 4,700 tons of pipes and specials were inspected by him against this and other orders secured by the firm. The total number of cast iron plates and steel sleepers inspected during the year was 12,60,513 against 12,85,534 during the previous year.

The following are some of the important orders received for inspection in the Circle during the year :—

		Rs.
1.	18,02,240 C.I. Plates and Pots (weighing 87,895 tons)	64,81,703
2.	1,272 Wagons and underframes	63,15,039
3.	I.R. springs for the E. I., N. W., and G. I. P. Railways	8,35,060
4.	Points and crossings for the E. I., E. B., N. W., and G. I. P. Railways	7,87,697
5.	17 Spans for the Victoria Bridge, N. W. Railway	7,06,605
6.	1,45,837 steel sleepers (weighing 4,783 tons) ..	6,31,009
7.	2,74,136 Tiebars for various railways	5,28,420
8.	Dog spikes for various railways	2,95,604
9.	C. I. anchor plates for the N. W. Railway ..	2,40,438
10.	Turn outs for the East Indian Railway ..	1,77,075
11.	Two way keys for the E. I. and N. W. Railways	1,74,784
12.	M. S. Billets for the East Indian Railway ..	1,66,500
13.	110 Span girders	1,63,604
14.	Steel frame structure for replacing the heavy Mill Wright shop at Kanchrapara (Eastern Bengal Railway)	1,31,454
15.	Springs, steel, for the N. W., G. I. P., and E. B. Railways	1,17,841
16.	A 20-ton self-propelling steam operated travelling crane for the E. B. Railway	1,05,980
17.	4,105 Axle boxes for the E. I. and E. B. Railways	98,516
18.	Machine tools for the E. B. Railway and Telegraph Workshops, Alipore.	92,624
19.	Fair "V" type Rail Anchors for the E. B. and North Western Railways	87,599
20.	Brake Beams for the North Western Railway ..	86,775
21.	3,43,500 Mills patent spring steel loose jaws for the North Western Railway	86,097
22.	Screw couplings for the N. W. and E. I. Railways	81,513
23.	Angle pickets for the Collector, Salt Revenue, Madras	63,891

	Rs.
24. Point roddings for the N. W. and E. I. Railways	63,448
25. Parting plates for the North Western Railway ..	62,109
26. Cotters M. S., split, for C. I., C. S. T., 9 type sleepers for the E. I. and N. W. Railways ..	57,256
27. Latrine pans for the Eastern Bengal Railway ..	51,496
28. 1,899 sets combination fish plates for the N. W. and E. B. Railways	47,608
29. Pressed steel tank for the E. B. Railway ..	32,815
30. Boiler for the Chief Forest Officer, Port Blair ..	31,070
31. 1,34,400 M. S. Division plates for the Great Indian Peninsula Railway	30,905

A photograph showing the interior view of one of the I. R. S. all steel combined motor and luggage vans built in India for the B. N. and E. B. Railways under the inspection of this Circle, faces this page.

Eighteen 'erection at site' orders were inspected during the year.

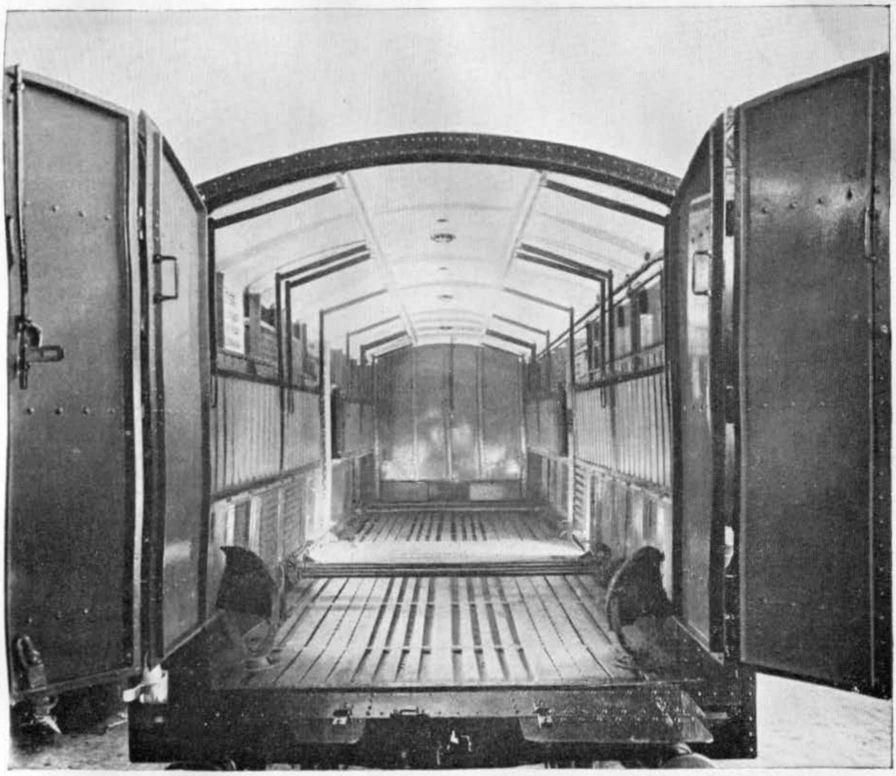
The Works and premises of 36 firms were inspected during the year, of which 23 were recommended for registration as "approved contractors".

The Controller of Inspection, Calcutta Circle, has been appointed as an Assistant Commissioner under the Northern India Steel Ingot (Excise Duty) Order, 1938, and was responsible for realisation of Excise Duty from the firms in his area, namely Hukumchand Electric Steel Co., Ltd., Ballygunge, Calcutta and the National Iron & Steel Co., Ltd., Belur, E. I. Railway.

45. *The Bombay Inspection Circle.*—The bulk of the work of this Inspectorate relates to inspection of orders placed by the Department itself. There was a slight decrease in the number and value of such orders received for inspection as compared with the previous year. Sixteen thousand two hundred and twenty-five orders valued at Rs. 1,02,37,123 were received during the year as against 17,666 orders amounting to Rs. 1,23,68,291 during 1937-38. The number of demands received for inspection from other purchasing authorities also decreased from 120 to 69 and their value from Rs. 6,50,162 to Rs. 3,09,499. The tonnage of materials inspected on weight basis decreased from 145 tons to 68 tons but the value of non-departmental orders increased from Rs. 4,81,010 during 1937-38 to Rs. 5,39,119 in the year under report.

Some of the important orders dealt with during the year were as follows :—

	Rs.
1. Crossings and switches for Railways	3,54,280
2. Electric Passenger Locomotive for the Great Indian Peninsula Railway	3,24,890
3. Steel trestles for rail and road bridge for Cochin Harbour	1,88,073
4. Steel work for Railways	1,84,140



Interior view of one of the combined motor and luggage vans built for the Bengal Nagpur and Eastern Bengal Railways.

(*Vide* paragraph 44.)

	Rs.
5. Cadmium copper wire, ingots, copper and M. S. flat, for the Great Indian Peninsula Railway	66,372
6. Girders and steel trestles for Railways	58,132
7. Pig lead for the Great Indian Peninsula Railway ..	49,485
8. Points and crossings for the Bombay Baroda and Central India Railway	43,799
9. Train lighting cells for the Great Indian Peninsula Railway	30,210
10. "Everite" Asbestos cement pressure pipes for the Commander Royal Engineers, Deccan District ..	23,461
11. Irish Freize, for the Superintendent, District Jail, Cawnpore	22,969

The following 'erection' orders were inspected during the year :—

1. Train lighting equipment for the Great Indian Peninsula Railway	63,464
2. "Caterpillar" standard grader and tractor for the Army Headquarters	60,433
3. Machinery required for the Central Engineering Workshop, Manmad	39,883
4. Air conditioning equipment for the All India Radio..	38,146
5. Passenger lifts for the Executive Engineer, Bombay Central Division	29,158

The works of 34 firms were inspected, of which 22 were recommended for registration.

46. *The Karachi Inspection Circle.*—The year under report shows a slight decrease, both in the number and value of orders dealt with in this Circle, as compared with those of the preceding year. The number of orders received for inspection declined from 10,343 to 10,009 and their value from Rs. 93,12,409 to Rs. 90,80,793. The number of demands received for inspection from other departments decreased from 10 to 5 and their value from Rs. 65,069 to Rs. 48,324. The number of orders actually inspected during the year fell from Rs. 9,793 to Rs. 9,650 but the value of such orders increased from Rs. 82,06,633 during 1937-38 to Rs. 95,80,676 during the year under report.

As in the past, miscellaneous, hardware and engineering stores formed the bulk of materials inspected by this Circle. Petrol, kerosene oil, diesel oil, lubricating oils and greases, road dressing materials, paints and varnishes, disinfecting fluids, liquid chlorine, calcium carbide etc., of the value of Rs. 20,12,589 were inspected. Materials wholly or partly fabricated in

Karachi, of the value of Rs. 4,23,042, were also inspected, some of the more important being :—

	Rs.
1. Garages for the Military Engineer Services	2,10,730
2. Unit construction steel water tanks for Commander, Royal Engineers, Lahore	51,904
3. Steel work for hangar for Royal Air Force	45,435
4. Platform shelter, carriage shed and clear span girders for the Jodhpur Railway	31,081
5. Steel tanks and stagings for the North Western Railway and the Military Engineer Services	21,380
6. Teak wood motor launch for the Executive Engineer, Panjnad	16,523
7. Wheels and axles for the North Western Railway ..	11,700

Twenty orders were inspected at site, the more important of which are detailed below :—

1. Lighting equipment and oil engine generating set for the Director of Civil Aviation in India	14,742
2. Shaping, drilling and weighing machines for the North Western Railway	13,967
3. Cold starting crude oil engine air lift centrifugal pump for the North Western Railway	12,846
4. Battery charging set and Passenger lift for the North Western Railway	12,468
5. Electrically driven pumping plant and petrol engine driven generating set for the Military Engineer Services	11,528
6. Wind Indicators and Landing Tee for the Director of Civil Aviation in India	10,350

The capacities of five firms were investigated but they were not considered suitable for registration as approved suppliers.

47. *The Upper India Circle.*—The Upper India Circle, with its Headquarters at Lahore and its activities extending over the whole of the Punjab, the North West Frontier Province, Delhi, and part of the United Provinces and Rajputana, deals mainly with the inspection of engineering plant and machinery after their delivery at site. In addition, it handles the inspection of textiles and general engineering and hardware stores in the works of the manufacturers located in the Punjab. There has been an appreciable increase during the year in the work of this Inspectorate. The total number of orders received for inspection rose from 5,732 in 1937-38 to 6,118 in 1938-39 and the value of such orders increased from Rs. 54,30,634 in 1937-38 to Rs. 75,16,886 during the year under report. The total number of orders

actually dealt with was 5,904, valued at Rs. 58,15,029, as compared with 5,405, valued at Rs. 45,78,811, in the previous year.

Some of the more important orders dealt with during the year were :—

	Rs.
1. Steam raising plant for the New Delhi Municipal Committee	2,91,952
2. A Turbo Alternator set for the New Delhi Municipal Committee	2,33,456
3. An Alternator set for the Public Works Department, Jaipur	1,52,682
4. Drilling, grinding and milling machines for the North Western Railway, Moghalpura	1,47,490
5. Sewage pumping plant for Health Services, Delhi ..	1,46,022
6. Train lighting dynamos and cells for the North Western Railway, Moghalpura	1,45,564
7. Copper conductors for the Public Works Department, Punjab	1,15,409
8. Rotary converters, transformers and switchgear for the Military Engineer Services, Peshawar, Nowshera and Risalpur	1,12,197
9. Screening and Detritus handling plant for Health Services, Delhi	78,080
10. Steel water tanks for the Military Engineer Services, Ferozepore	51,904
11. Pumping sets for the Military Engineer Services, Lahore, Ferozepore and Peshawar	49,598
12. Generating sets for the Military Engineer Services, Peshawar and Bannu	37,772
13. H. T. Cable for All India Radio	36,137
14. Pumping sets for the North Western Railway ..	32,528
15. Pumping sets, transformers and switchgear for the Military Engineer Services, Jubbulpore	30,365
16. H. T. Rectifier plant for the New Delhi Municipal Committee, New Delhi	30,170
17. Luggage hoists for the North Western Railway, Delhi	28,822
18. Train lighting belting for the North Western Railway, Moghalpura	28,044
19. Diesel locomotive and 70 H. P. engine for Rajputana Salt sources, Sambhar Lake	21,905
20. Caterpillar No. 10 Auto Patrol for District Board, Delhi	15,919
21. Road Rollers for the Public Works Department, Punjab	14,520

	Rs.
22. Loco. weighers for the North Western Railway, Kalka	14,100

One hundred and thirteen "erection at site" orders for plant and machinery were dealt with during the year, as against eightysix in 1937-38.

The works of 21 firms were inspected, of which 17 were recommended for registration as 'approved contractors'.

48. *The Cawnpore Inspection Branch.*—The number of orders received for inspection in this Inspectorate rose from 3,270 in 1937-38 to 3,885 in 1938-39. The value of such orders, however, decreased from Rs. 28,78,350 to Rs. 24,89,590. The decrease is mainly due to the fall in prices of oil and cotton waste.

The work of this Inspectorate is chiefly connected with the inspection of hardware stores, oils, textiles and leather goods of indigenous manufacture. An important development in indigenous manufacture in Cawnpore has been the fabrication of permanent way material for Railways. During the year under review, departmental and outside orders for inspection of such material received by the Inspectorate amounted to Rs. 3,39,292.

The total tonnage of stores inspected on weight basis increased from 1,240 in 1937-38 to 1,954 in 1938-39. Three orders amounting to Rs. 11,011 were received from the Palestine Government for the inspection of tents and tentage equipment, as against two orders amounting to Rs. 2,760 during the previous year.

The works of 11 firms were inspected, of which 7 were recommended for registration as 'approved contractors'.

49. *The Madras Inspection Branch.*—As in the previous year, the increase in the volume o work in this Inspectorate was maintained during the year under report. The number of orders received for inspection rose from 4,964 in 1937-38 to 5,317 in the year under review. The value of orders inspected also increased from Rs. 15,56,313 to Rs. 15,78,331. The work in this Inspectorate mostly relates to the inspection of orders placed by the Department itself and the number of such orders rose from 4,946 in the preceding year to 5,291 in the year under report. The value of such orders received for inspection during the year amounted to Rs. 15,76,570 as against Rs. 15,38,248 during the preceding year. In addition to the orders placed by the Indian Stores Department, twentysix orders for textile stores, valued at Rs. 26,955, were inspected on behalf of the Mysore Government, as against eighteen orders valued at Rs. 30,091 inspected on their behalf during the preceding year. The total value of orders received for inspection thus amounted to Rs. 16,03,525, as against Rs. 15,68,339 during the year 1937-38.

The Inspectorate continued to maintain the steady increase in the inspection of hardware and miscellaneous engineering stores. The value of such stores inspected during the year was Rs. 13,02,650 against Rs. 11,87,530 in the preceding year. The value of textile stores inspected, however, decreased from Rs. 3,98,874 to Rs. 3,02,636.

CHAPTER V.

THE METALLURGICAL INSPECTORATE, TATANAGAR.

50. *Work done.*—The all round improvement in the work of the Metallurgical Inspectorate observed last year was maintained during the year 1938-39. It is gratifying that, although the revenue has fallen slightly, the services of the organisation in general were more extensively in demand. The arrangement introduced in the previous year for investigation of materials failed in service was more effective in the year under review, in that the railway administrations have recognised the principle of co-ordinating information collected by the Inspectorate in the course of investigation work. This aspect of the work has been detailed more fully in paragraph 52.

The quantity of material inspected during the year and charged on weight totalled 3,50,909 tons, which was only once exceeded in 1937-38 when it aggregated 3,71,549 tons. Stores on which the inspection fee was charged on value amounted to Rs. 16,92,945, against Rs. 21,80,959 in the preceding year. The estimated value of stores inspected and passed during the year was Rs. 471 lakhs approximately, as compared with Rs. 501 lakhs in the previous year. The small decline as compared with the preceding year may be attributed to the contraction of demands for structural steel.

Details of work done by the Inspectorate for various authorities and concerns during 1938-39, together with the comparative figures for the three preceding years are furnished in Appendices XI to XIII and XV.

A list of stores with their values which came under inspection during the year is given below :—

Material.		Quantity inspected and passed.	Value.
			Rs.
Rails, ordinary	Tons.	58,364	58,46,622
Rails, chrome	,,	16	2,000
Rails, medium manganese	,,	32,288	40,36,000
Rails, ordinary II class	,,	72	6,120
Fishplates, high carbon	,,	3,074	4,51,085
Fishplates, ordinary	,,	152	20,216
Structural (routine)	,,	2,41,078	3,06,16,906
Structurals	,,	13,306	17,57,035
Lloyds plates	,,	536	1,07,200
Steel sleepers	,,	4,571	5,26,737
Crossing sleepers	,,	2,017	2,62,210
Tie bars	Nos.	97,497	1,74,681

Material.		Quantity inspected and passed.	Value.
			Rs.
M. S. sheets	Tons.	201	46,034
Galv. corr. and plain sheets ..	,,	143	32,977
Cables, routine	Yds.	23,83,650	5,95,912
Other cables	,,	69,459	26,596
Copper conductors	Tons.	445	3,58,051
Galv. steel wire	,,	52	16,120
Barbed wire	,,	102	30,600
Agrico implements	Nos.	83,886	1,07,545
Pig iron	Tons.	4,135	3,77,289
Oxygen gas	Cft.	3,66,200	14,648
Ammonium sulphate	Tons.	8,357	6,26,775
Steel sections (routine)	,,	4,713	9,89,730
Spring steel flats	,,	129	30,596
Panel plates, mild steel	,,	10	2,286
Steel for ship-building	,,	93	17,094
Boiler plates and rivets	,,	4	520

Messrs. The Tata Iron and Steel Co., Ltd.—As in previous years, inspection of rails and fishplates against the demand of the Railway Board and other customers, and certification of structural material manufactured by the Tata Iron and Steel Co., formed the major portion of the work done at the Metallurgical Inspectorate.

The Railway Board's demand amounted to 87,066 tons of rails and 2,934 tons of fishplates, as against 71,987 tons of rails and 2,806 tons of fishplates in the preceding year. In addition to the above, the Company had demands from other sources, which included some of the railways owned by Indian States, *e.g.*, the Gondal Railway, Morvi Railway, Mysore Railway etc., amounting to 4,516 tons of rails and 115 tons of fishplates. The corresponding figures for the previous year were 10,492 tons and 316 tons. Further, 5,900 tons of rails and 170 tons of fishplates were ordered through the Indian Stores Department, as compared with 701 tons of rails in the preceding year. While these were the demands on the firm for the year under review, there were 6,460 tons of rails outstanding against the Railway Board's requirements for 1937-38 which were also supplied. Thus the aggregate demand on the Company amounted to 1,03,942 tons of rails and 3,219 tons of fishplates. The supplies effected against these were 88,298 tons of rails and 3,074 tons of fishplates. The respective figures for 1937-38 were 83,180 tons of rails and 3,122

tons of fishplates as demanded, and 75,084 tons of rails and 3,099 tons of fishplates as supplied. The supplies consisted of 31,652 tons of medium manganese Rails, 179 tons of chrome rails and 56,467 tons of ordinary carbon rails. On the recommendation of the Metallurgical Inspector the use of chrome steel rails for Points and Crossings has been almost completely discontinued, in view chiefly of the danger with chrome steel when the modern system of repairing worn points, by electric welding, becomes universal.

The Steel Company submitted for test and certification structural steel sections represented by 3,21,436 tons of ingot weight, involving supervision of 12,227 tensile tests, against 3,75,011 tons involving 13,170 tests in the preceding year.

One of the special features of the year was that the Tata Iron and Steel Company introduced the manufacture of spring steel flats, and, with the supervision, advice and co-operation of the Inspectorate, they were able to produce successfully the desired material for the market. For the certification of this class of material, Cambering tests had to be taken. The number of such tests amounted to 598.

The Government of Bihar appointed the Metallurgical Inspector as the authority under the Indian Boilers Act to test and certify materials manufactured by the Tata Iron and Steel Company for boiler purposes. The firm utilised the services of the Inspectorate in this respect by obtaining certificates for 4 tons of boiler materials consisting of 121 pieces, and involving 10 tensile and 4 bend tests.

An appreciable increase in the number of steel sleepers put up for inspection was in evidence during the year under report. Sixty-one thousand and fifty-three pieces of steel (pressed) sleepers, weighing 4,572 tons, were certified in 1938-39 on behalf of the North Western, the Bombay Baroda and Central India, the South Indian and the Bombay Port Trust Railways, as compared with 28,227 pieces (2,155 tons) in the preceding year. In addition, 16,440 pieces (2,017 tons) of crossing sleepers were inspected and passed for the Great Indian Peninsula Railway.

As the Acting Surveyor to Lloyds Register of Shipping, the Inspectorate tested, inspected and certified 536 tons of ship-building plates, involving 105 tensile tests, during the year, as against 1,179 tons of plates, 5 tons of structural steel and 219 tensile tests in 1937-38.

Inspection of the high-tensile alloy-steel materials for the new Howrah bridge engaged the attention of the inspecting staff to a great extent. The weight of this material passed during the year was 10,254 tons, involving 3,958 certificates, as compared with 7,886 tons in the previous year. The total quantity passed up to date for this purpose is 20,273 tons.

The Steel Company also executed orders placed by the Indian Stores Department for materials of various descriptions, *e.g.*, rails, fishplates, plain and galvanised sheets, pig iron, panel plates, spring steel flats, tie bars etc., of the aggregate value of Rs. 11,39,000 approximately, as against Rs. 13,47,000 in 1937-38.

Agricultural Implements Department of Messrs. The Tata Iron and Steel Company, Limited.—The firm supplied 76,222 pieces of tools during the year against orders placed by the Indian Stores Department as compared with 68,779 pieces in the previous year, and 7,664 pieces against orders placed by other authorities (chiefly by the Director of Contracts) as compared with 282 pieces in 1937-38. As a result of careful supervision and advice of the Inspectorate, the quality of the implements has been much improved and reports of satisfactory service of the articles are received.

The Indian Cable Company, Limited.—This Company experienced labour trouble during the year under report. As a consequence they were closed from about the beginning of May to the middle of December 1938, which adversely affected the volume of work performed by the Inspectorate at the works of the Company.

During the year 25,346 coils comprising 23,83,650 yards were put up for routine certification, as against 60,457 coils (56,48,712 yards) in 1937-38. The work involved 3,687 Electrical tests, as compared with 9,919 in the previous year.

The Company also supplied 69,459 yards of cables and 445 tons of copper conductors against orders placed by the Indian Stores Department. In 1937-38 this work amounted to 2,13,489 yards of cables and 645 tons of copper conductors.

The Indian Steel and Wire Products, Limited.—The Company submitted during the year 4,713 tons of steel sections for test and certification to standard specifications, as against 2,337 tons in the previous year. As may be noted from the following figures, the tonnage for 1938-39 makes the record output so far certified :—

	Tons.
1935-36	571
1936-37	2,696
1937-38	2,337
1938-39	4,713

The work involved 65 tensile and 859 bend tests, against 87 tensile and 487 bend tests in the preceding year.

The firm also supplied and inspection was carried out of 102 tons of barbed wire (worth Rs. 30,600) for the Defence Department and 52 tons of galvanised wire (worth Rs. 16,120) against orders placed by the Indian Stores Department.

The Indian Oxygen and Acetylene Company, Limited.—During the year 3,66,200 cft. of Oxygen gas supplied by the Indian Oxygen and Acetylene Company, Limited, against Indian Stores Department orders were tested. The quantity tested during 1937-38 was 2,89,000 cft.

The Steel Corporation of Bengal, Limited, Hirapur.—Detailed estimates for staff, buildings, plant, apparatus etc., to establish an inspectorate at

Hirapur for inspection of the products of the above new steel company, were drawn up and submitted to the Government of India during the year. The estimates have been sanctioned by the Government and it is anticipated that the new organization will begin to function during the current year.

51. *Tests and Estimations.*—The number of estimations of carbon, silicon, manganese, sulphur, phosphorus, chromium, copper, iron, lead, nickel, tin etc., totalled 24,220 against 23,724 in the previous year. The figure includes 1,783 miscellaneous estimations, which comprise determinations of copper, lead, iron, nickel molybdenum, tin, zinc etc., against 1,506 for 1937-38.

During the year 12 samples of ammonium sulphate, representing various consignments of 8,357 tons which involved 64 chemical determinations, were taken on behalf of the Sulphate Federation. In 1937-38, 12 samples were taken, with 63 chemical determinations, from 7,055 tons of material.

Ninety-two thousand nine hundred and fifty-five mechanical tests have been effected in 1938-39, against 1,03,672 in the previous year, as detailed below :—

	1938-39.	1937-38.
Tata's structural tensiles	12,227	13,170
Tata's other tensiles	320	468
Tata's cambering tests	598	*Nil.*
Drop tests on rails	2,117	1,968
Bend tests on Tata's structurals ..	76,769	87,492
Tensile tests for Indian Steel and Wire Products	65	87
Bend tests for above	859	487
Total ..	92,955	1,03,672

The above figures do not include 3,408 hammer tests on rails, 824 tensile tests on copper conductors, 3,687 electrical tests and 1,805 wrapping, twisting and tinning tests for the certification of cables and copper conductors. In 1937-38 these figures were 2,918, 2,124, 9,919 and 1,568 respectively.

52. *Investigations and Advisory work.*—This work is important chiefly for the educative value it affords to the manufacturers and consumers. In almost every case investigated, failure can be attributed to a definite cause. Having pointed out the cause, it is expected that recurrence can be avoided. As is usual, the great majority of cases are traced to fatigue failures due to poor design, or mal-usage. Defective steel accounts for only a very small percentage of failures. During the year 53 investigations, bringing in an income of Rs. 4,317, were handled as against 66 investigations, on which fees amounting to Rs. 4,730 were earned, in the previous year.

The work involved 287 tests and 433 chemical determinations against 311 tests and 282 determinations in the preceding year and covered material

of a variety of descriptions, *e.g.*, rails, fishplates, pistons, tyres, weldings, shafts, rivets etc., which failed in service and were sent to the Inspectorate to ascertain the cause of failure.

Following are a few of the examples where investigation or advisory work was performed :—

(1) A Company-worked railway sent two batches of fishplates, about half of which had been subjected to heat-treatment, to determine the difference in their physical properties. The railway was advised as to how proper heat-treatment should be given and that this kind of work should only be entrusted to firms which understood the principles of heat-treatment and possessed necessary equipment for such work.

(2) Again, heat-treatment of fishplates was a matter for investigation on behalf of the Railway Board. Several fishplates were heat-treated at the workshop of a State-worked railway and sent to the Inspectorate for carrying out the tests. The results of such tests were furnished to the Railway Board. As a result of the original suggestions of the Metallurgical Inspectorate, and subsequent experiment, a length of 2½ miles of track is being laid with these heat-treated fishplates.

(3) Swing links, which had fractured in service, were received from two State-worked railways for investigating the cause of failure. In one case the swing link was manufactured from steel supplied by the Tata Iron and Steel Company and in the other from old axles. In the case of the former, the investigation revealed that while the steel was up to the specification, the design was such as to cause rapid failure of the link through fatigue, whereas in the latter case it was found that the steel was unsuitable for the purpose and that evidence was not wanting to show that unsymmetrical loading, due to faulty fitting in the underframe, caused the failure.

(4) A Company-worked railway forwarded a small portion of a diagonal member of a bridge and desired to know how the member had fractured. While no exhaustive investigation could be undertaken for want of proper sized samples, the information that the bridge had been in service for 46 years suggested that the failure could not have been due to defects in the material. The railway was advised that careful examination of the members should be carried out when the bridge was inspected. Again the same railway forwarded some samples of metal taken from another bridge and wanted to know whether the metal was wrought iron or steel. It was found on investigation that the sample was of wrought iron, which was not of a high grade.

(5) Under the orders of the Railway Board all cases of failures of tyres of Engines and Tenders are required to be investigated by the Metallurgical Inspector. Accordingly a number of fractured tyres are received from various Railways, both State and Company-managed. These investigations revealed one important point, namely, that in almost all cases the stud-hole in the tyres was the source of weakness, where cracks developed owing to concentration of stresses. As a result, it was recommended that the condemning thickness of tyres might be increased, as long as the method of securing the tyres to the wheel centres through stud-holes was not changed.

(6) A broken Journal was received from a Light Railway and examined for the cause of failure. The Railway was informed that inspite of imperfections in the metal discovered under the microscope, the primary cause of failure was not due to them but to abnormal service conditions, which gave rise to uneven wear and grooving of the Journal surface.

(7) Another Light Railway forwarded a broken axle and a brass, and desired to be informed of the cause of failure of the axle and of excessive wear of the brass. The investigation showed that the axle was of a very poor quality steel, which cracked due to enhanced stresses in a mis-fit boss and eventually failed due to fatigue. The excessive wear of the brass was a consequence of the failure of the axle.

(8) The Railway Board in sending broken Corner Knees of a Railway coach for investigation desired the Metallurgical Inspector to report on the condition of the metal. They were informed that, while the material conformed to the requirements of the specification, failure was caused by the angles having been subjected to varying stresses above the fatigue strength of the steel. Increased thickness of these components was suggested as the cure.

(9) A State-worked Railway enquired as to how an ordinary blacksmith of the Permanent Way Inspector could reharden worn beaters after repointing. Full heat-treatment details were given, and the results are reported to be satisfactory.

(10) An extensive work, undertaken at the instance of the Railway Board during the year in the interest of the Indian Railways, was the determination of practical methods by which the various white metals used on the railways for loco bearings could be improved. A large volume of work was done in this connection, over the whole twelve months, showing definitely that the quality of white metal bearings could be improved under stated conditions. Pamphlets embodying the work and discussions carried out on the subject are under publication.

(11) A Colliery sent a broken detaching hook for ascertaining the reason for breakage. It was found that the wrought iron of which the hook was made contained irregularly spaced slag inclusions which to some extent brought about the failure that was accentuated by possibly wrong designing of the hook.

(12) Many welded samples were examined at different times of the year which had been submitted by the Civil Aviation Department through the Government Test House. In almost all the cases, while reports as to the soundness or otherwise of the weld were made, it was pointed out that the whole question needed standardisation.

(13) A Consulting Engineer of a sugar mill sent a mill top roller shaft to determine the cause of failure, as his clients were experiencing trouble by breakage of roller shaft. As a result of investigation it was learnt that, while the steel of which the shaft was made was satisfactory, it appeared that severe service conditions were responsible for the breakages. Change of design and mechanical fittings was suggested to improve the life of the shaft.

(14) A firm made enquiries regarding the process of making chilled cast iron rollers and of making chilled cast iron. They were supplied with details of the necessary processes and practices and were invited to write for any further advice they needed.

(15) Close attention has been given by the Metallurgical Inspector to the subject of rail-joint welding. Several welded samples were tested during the year, and several others have been sent to Europe to be welded for subsequent testing at Tatanagar.

(16) The Metallurgical Inspector made strong representations to the Railway Board and to the Tata Iron and Steel Company on the advisability of installing the Sandberg Controlled-Cooling Process for Rails at the Works of the Steel Company. The principle has been accepted, and plant costing about Rs. 3·5 lakhs is at present under erection, which will handle all rails used in India.

(17) The Metallurgical Inspector acted as Chairman of a Technical Committee called at the instance of the Master General of the Ordnance, during the year, and he has been appointed permanent Chairman of the Indian Railway Conference Association Sub-Committee of Metallurgists and Chemists, whose first meeting was held at Lahore during the year.

53. *Specifications.*—The following were some of the specifications which were scrutinised or redrafted during the year :—

1. I. R. S. Specification M-22/34—for panel plates.
2. I. R. S. Specification for rope for double wire signalling.
3. I. R. S. Specification for combination fishplates.
4. I. R. S. Specification M-5/37—for Class II steel plates, sections, bars etc.

54. *Certification of Materials for Exemption of Customs Duty.*—The Metallurgical Inspector is entrusted with the duty of issuing certificates for exemption of Customs Duty in regard to certain raw materials used by the Indian Cable Co., Ltd. As the works were closed for several months, only 1,606 tons of copper rods were certified for duty-free importation on behalf of the Company for the manufacture of copper wires, cables etc., in their Works at Tatanagar, as against 3,524 tons in 1937-38.

55. *The Steel Ingots (Excise Duty) Order, 1938.*—On the creation of the Department of Central Excises and Salt, Northern India, with effect from 1st April 1938, the Metallurgical Inspector was appointed as an Assistant Commissioner under the Northern India Steel Ingots (Excise Duty) Order 1938 and continued to deal with the assessment and realisation of Excise Duty on Steel Ingots produced by The Tata Iron and Steel Company, Ltd., Jamshedpur. The realisations were incorporated in the Accounts of the Assistant Commissioner, Eastern Division, Calcutta.

For steel material exported out of the India 737 applications were received and certified as against 972 applications disposed of during 1937-38. Sixty-six

Refund orders, involving payment of Rs. 73,082/15 on account of drawback of Excise Duty, were issued against 939 orders involving Rs. 1,21,460/5 in the preceding year.

To admit the claims of the Tata Iron and Steel Company for countervailing Excise duty from different railways in India on Steel Rails and Fishplates supplied under the Railway Board's contract, the Metallurgical Inspector issued 1,192 certificates as compared with 927 in the previous year. The Metallurgical Inspector also dealt with 168 applications in form E received from exporters to Burma through the Custom Department, to enable the former to obtain the necessary certificates from the Collector of Customs, to render the goods covered by the certificates eligible for entry into Burma free of countervailing import duty, in lieu of a cash refund of Excise Duty paid in India. A credit of Rs. 45,936-14 was authorised to be paid to the Government of Burma on these applications and claims amounting to Rs. 3,622-13 were disallowed. The Metallurgical Inspector has been authorised under this arrangement to settle the rates at which rebate is to be granted and arrangements exist for automatic daily checking of the whole of the Company's production and deliveries which ensure expeditious disposal of the applications.

CHAPTER VI.

THE GOVERNMENT TEST HOUSE, CALCUTTA.

56. *General.*—Since 1936-37 there has been a considerable increase in the number of samples tested at the Government Test House, and last year it was possible to report a record figure of 9,085 tests. During the year under review, an unexpectedly high figure of 11,384 tests was reached, which represents an increase of about 25 per cent. over the figure for the previous year. This striking increase is due to an all round increase of work in practically all the sub-sections of the Physical section, but more particularly to the large number of samples of hessian cloth etc., which have been tested since the placing of the contract on behalf of His Majesty's Government for sandbags with the Jute mills in India in February last. It is also partly due to a batch of about 800 samples of steel bars received for test from a supplying firm in connection with a rejection by a railway. If these two special items are excluded, the previous year's record was exceeded by some 500 tests. An account of the activities of the Research Branch has been included in the Administration Report of the Industrial Research Bureau, which has been published separately.

The volume of work carried out on behalf of the Indian Stores Department, as judged by the number of samples reported, decreased from 6,082 to 5,697, as a result apparently of the financial restrictions placed on the purchasing powers of consuming departments of the Central Government. It may incidentally be mentioned that this decreased figure is practically on a level with the corresponding figure (5,672) for 1936-37. A decrease has also been recorded in the case of the work carried out on behalf of the Company-worked railways. In the case of all other clients of the Test House, increases of work have been recorded. Especially striking are the figures which represent the work carried out on behalf of the Defence Department, private concerns and Indian States. In the case of the former 1,413 samples were reported upon as against 304 samples during the previous year, and in the case of the latter the figures for two years are 2,574 and 1,524 respectively. The figures for the Provincial Governments and public bodies are worthy of mention, these being 446 and 428 respectively as compared with 199 and 255 of the previous year.

Special arrangements were made during the last two months of the year to carry out urgent tests on the large batches of samples of hessian cloth etc., which were received in connection with the contract for sandbags. These tests had to be carried out expeditiously as on their results the shipments by certain sailing dates of large consignments depended. The arrangements are being continued for the remaining period of the contract. Tests are carried out after maturing samples for 48 hours under the specified conditions of temperature and humidity, and the air-conditioned room, available at the Test House, has proved of great service in this connection. Each sample is subjected to 20 tensile tests—ten warpway and ten weftway—and up to the 31st March, 1939, 1,015 samples were tested.

The complete figures relating to the number of samples tested on behalf of the various Government departments, railways, public bodies, private

concerns etc., during the year under review are shown in Appendix XV, which also includes the corresponding figures for the previous three years. A list of materials tested during the year is given in Appendix XVI.

A large number of visitors were conducted through the laboratories during the year, and the following organised visits may be mentioned :—

1. Members of the Institution of Engineers (Bengal Branch).
2. Students and staff of the Bengal Engineering College, Sibpur.
3. Students and staff of the Engineering College, Madras.
4. Students and staff of the Engineering College, Poona.
5. Students and staff of the Victoria Jubilee Institute, Lahore.
6. Members of the Indian Roads Congress.

The following factories were inspected and reported on by the staff of the Test House during the year :—

1. The Dalmia Cement Co. at Dehri-on-Sone.
2. The Punjab Paint, Colour and Varnish Works at Lahore.
3. The Dalmia Cement Co. at Karachi.
4. The Ravi Paint, Colour and Varnish Works at Lahore.
5. The Lister Antiseptic and Dressing Co., Calcutta.
6. The Calcutta Immunity Co. (Insecticides), Calcutta.
7. The Bengal Acid Manufacturing Co., Calcutta.

Since the setting up of the Railway Metallurgists and Chemists Committee (now incorporated in the Indian Railway Conference Association) by the Railway Board, in the latter part of 1937-38, much work has been carried out at the Test House in connection with the problems discussed at the meetings of that Committee. The Superintendent has served as a member of the Committee and has since November, 1937, attended four meetings held at Tatanagar, Jamalpur, Khargpur and Lahore respectively. The last two meetings were held during the year under review.

The Superintendent was nominated as a member of the Indian Central Jute Committee during the year, and has since been serving on the main Committee and also on several sub-committees.

57. *Physical section*.—The total number of samples tested in the Physical section during the year was 7,175, as against 4,839 samples tested during the previous year. The difference represents an increase of over 48 per cent.

The numbers of samples tested on behalf of the Defence Department, the State-worked Railways, the Provincial Governments, public bodies and private

concerns showed substantial increases, as will be seen from the following figures :—

	Number of samples tested in 1937-38.	1938-39.
Defence Department	58	1,107
State-worked Railways	79	154
Provincial Governments ..	119	312
Public bodies	147	248
Private concerns	811	1,893

The numbers of samples tested on behalf of the Indian Stores Department and the Company-worked Railways showed slight decreases, as will be evident from the following figures :—

	Number of samples tested in 1937-38.	1938-39.
Indian Stores Department ..	3,326	3,192
Company-worked Railways ..	104	54

The numbers of samples tested in the Heavy Mechanical, the Light Mechanical, the Electrical and the Textile sub-sections showed substantial increases, as will be indicated by the following figures :—

	Number of samples tested in 1937-38.	1938-39.
Heavy Mechanical sub-section ..	959	1,540
Light Mechanical sub-section ..	684	1,435
Electrical sub-section	1,356	1,473
Textile sub-section	925	1,907

The work shown against the Heavy Mechanical sub-section does not nclude 497 samples of mortar and concrete blocks tested on behalf of the Research branch of the Test House. The very substantial increase of work in this sub-section was principally due to the large number of structural steel materials received for test from the Quetta Reconstruction authorities, and from two rolling mills near Calcutta and two other rolling mills in South India.

The heavy increase of work in the Light Mechanical sub-section was mainly due to the Test House being called upon by a local firm to examine and dimension a large number of steel bars in connection with a dispute. It was also partly due to the testing of a substantially larger number of road metal samples during the year. The increase of work in the Electrical sub-section was mainly due to the larger number of primary cells tested during the year, and the large increase in the work of the Textile sub-section to the very large number of tests carried out in connection with the contract for the supply of sandbags.

The number of samples tested in the Cement sub-section showed a slight decrease, being 820 samples as against 915 samples tested in the previous year. This was principally due to the suspension of work in two factories which form a part of the Associated Cement Companies organisation and to the smaller number of samples received from the remaining factories for test on their own account, as a result of their amalgamation into one company.

58. *Special investigations (Physical).*—In addition to the routine testing the following special investigations were either in progress or completed during the year :—

(1) Standardisation of a suitable method of carrying out cold bend tests on welded sheet materials for use in aircraft.

(2) Investigation with a view to determining the most suitable method of carrying out strength tests on khaki cotton cloth.

(3) Calibration of a Fereday Palmer Stress Recorder used in checking actual working stresses in various parts of bridges.

(4) Comprehensive physical and chemical tests on the component parts of two country-made cane mills and advice given to the United Provinces Government regarding the suitability of the materials used.

(5) Preparation of a set of laboratory sub-standard weights from National Physical Laboratory calibrated gramme weights for checking the accuracy of Indian Bazar weights.

(6) Investigation to determine the effects of altering the temperature and relative humidity of the conditioning and testing atmosphere, from 70°F. and 70 per cent. relative humidity to 80°F. and 70 per cent. relative humidity, on the strength of hessian cloth.

(7) Investigation with a view to developing a suitable laboratory test on railway fog signals. This work is still in progress, but nearing completion.

(8) Investigation of the effects of storage on the insulation resistance of new 250 volts 3—layer V. I. R. dielectric C. M. A. cables. This work is still in progress.

(9) Investigations to determine the suitability of leathers tanned in India for making hydraulic cups.

(10) Comparative tests to determine the life of motor car headlight lamps under vibration. This work in still in progress.

(11) Determination of the physical properties of an aluminious cement manufactured by a local syndicate.

(12) Special tests to determine the suitability for use of glass and emery papers manufactured by two factories in India.

59. *Specifications (Physical).*—The following specification was drafted during the year :—

Specification for leather for making hydraulic cups.

The following specifications were revised during the year :—

(1) I. S. D. specification No. G/Tex./C.-40D for khaki cotton twill.

(2) I. S. D. specification No. G./Tex./Misc. 27D for imitation leather cloth.

(3) I. S. D. specification No. G.-Misc. 69 and 70 for hoses.

The following specifications were scrutinised during the year :—

(1) I. S. D. specification No. G/Tex./Misc.-47A. (Correction No. 1 of May 1938) for linoleum.

(2) I. R. S. draft specification No. B5-38 for reinforced concrete pipes for use as culverts.

60. *Chemical section.*—The total number of samples tested by the Chemical section, including the Oil sub-section, during the year was 4,209 as against 4,246 recorded for the previous year. The decrease is negligible, and the level reached in 1937-38 may be regarded as practically maintained. The separate figures for the General Chemical and Oil sub-sections were as follows :—

	1937-38.	1938-39.
General Chemical sub-section ..	2,936	2,892
Oil sub-section	1,310	1,317

The following figures show how the work carried out during 1938-39 on behalf of various Government departments and other authorities compared with that of the previous year :—

Parties for which tests were carried out.	Number of samples reported in 1938-39.			Number of samples reported in 1937-38.		
	Chemical Laboratory.	Oil Laboratory.	Total.	Chemical Laboratory.	Oil Laboratory.	Total.
1. Indian Stores Department ..	1,774	731	2,505	1,948	808	2,756
2. Central Government Departments (Civil)	196	58	254	159	40	199
3. Defence Department	27	279	306	29	217	246
4. Provincial Governments	127	7	134	62	18	80
5. State-worked Railways ..	57	24	81	79	16	95
6. Company-worked Railways ..	55	1	56	42	..	42
7. Railways worked by Indian States ..	29	..	29	16	..	16
8. Indian States ..	20	..	20	21	..	21
9. Quasi-public bodies	173	7	180	77	31	108
10. Private concerns	434	210	644	503	180	683
Total number of samples reported ..	2,892	1,317	4,209	2,936	1,310	4,246

The work carried out on behalf of the Indian Stores Department shows a decrease from that of the previous year, while varying increases are shown in the work done for the Central departments (Civil), the Defence Department, the Provincial Governments, the Railways worked by Indian States and quasi-public bodies. The increase in the total figure for the Defence Department is again due to the large number of samples of aviation spirit, received for test during the year. Minor decreases are shown in the work carried out on behalf of the State-worked Railways and private concerns.

The figures relating to the four most important items of the Chemical section, namely, (1) paints, varnishes etc., (2) lubricating oils, (3) aviation spirit and (4) coal, are noted below. While there was a decrease in the numbers of samples of paints, varnishes etc., as well as of lubricating oils, the numbers of coal and aviation spirit samples reported upon were considerably higher. The decreases in the case of the first two items were mainly due to the smaller volume of work received from the Indian Stores Department.

	1937-38.	1938-39.
1. Number of samples, of paints, varnishes etc., tested	768	615
2. Number of samples of lubricating oils	536	437
3. Number of samples of aviation spirit	233	288
4. Number of samples of coal ..	188	282

Mention may also be made of the three other important items, namely, cement, textiles and metals (mostly ferrous materials). Two hundred and eighty-five samples of cement, 539 of textiles and 315 of metals were chemically tested during the year.

61. *Exposure test panels.*—The total number of panels (steel and wood, painted with paints, enamels, varnishes, cellulose lacquers etc.), which have been exposed since the commencement of the exposure test work, is 2,316. Of these, 264 panels (261 steel panels and 3 wooden panels) were exposed during the year under review, as against 167 panels in the previous year. The total number of panels so far exposed on behalf of firms is 217. Atmospheric corrosion tests were continued on steel and wrought iron panels on behalf of the Railway Board, and interesting results were obtained after a year's exposure on panels of different kinds of steel and wrought iron exposed at four centres, namely, Alipore, New Delhi, Lahore and Bombay.

62. *Standard samples.*—The total number of standard samples of paints, enamels, varnishes etc., received up to the end of 1938-39 was 3,877, of which 436 were received during the year. The number of these samples tested during the year was 109. The number of standard samples which remain to be tested is 949.

The number of new standard samples of lubricating oils and greases reported upon during the year was 60. Special tests were carried out on 34 samples of lubricants.

63. *Special investigations* (*Chemical*).—The special investigations carried out during the year included the following :—

1. Study of the leafing property of aluminium paints.
2. Determination of the comparative spreading power of red oxide and graphite grey paints, when sprayed.
3. Determination of the heat and fire-resisting properties of fireproof paint.
4. Investigation of the durability of white enamels (cellulose lacquer base) sprayed on various aluminium and zinc sheets.
5. Work on corrosion : (*a*) deterioration of zinc coatings of structural steels, (*b*) corrosion of galvanised steel pipes carrying soft water in a water-supply system, and (*c*) atmospheric corrosion of different qualities of steel and wrought iron.
6. Investigation of the burning qualities of kerosenes tested in the I. R. S. "C. I. " type signal lamp fitted with chimneyless long time burner.
7. Investigation of the effects of high wax content in lubricating oil.
8. Oxidation tests on axle oils and cylinder oils.
9. Investigation to determine the causes of glazing of Armstrong oiler pads used in the axle-boxes of electric locomotives.

64. *Specifications* (*Chemical*).—The following specification was revised during the year :—

I. S. D. specification No. G/Chemicals-33 for oxygen gas, compressed.

The following specifications were scrutinised during the year :—

1. I. R. S. specification No. 4-29 for copper ingot.
2. I. S. D. specification No. G/OP-61C for soft soap.
3. I. S. D. specification No. G/Chemicals-24D for salammoniac (ammonium chloride).
4. I. S. D. specification No. G/Tex./Misc.-27D for leather imitation cloth.
5. I. R. S. specification No. T.-15-38 for inspection trollies, material trollies or lorries and duplicated lorries.
6. I. S.D. and firm's approximate specifications for fuel oils *viz.*, high speed diesel, light diesel, heavy diesel and furnace oils,—considered in connection with supplies against I. S. D. contracts.

65. *Plant and apparatus.*—A complete list of the plant and equipment available for testing various classes of materials was published with the Administration Report for 1937-38 (Appendix XIX). Several additions were made to the equipment during the year under review, as detailed in Appendix XVII.

CHAPTER VII.

Registration of Firms.

66. *Registration of firms in the Headquarters list.*—The number of firms registered on the books of the Department as approved manufacturers or suppliers of stores of various descriptions increased from 3,878 at the end of the year 1937-38 to 4,231. Full details of this number indicating the areas in which they are located and the classes of stores they manufacture or supply are given in the following statement:—

Description of Stores.	Bengal.	Bombay.	Sind.	Madras.	Punjab.	United Provinces.	Delhi.	Burma.	Bihar.	Central Provinces.	Assam.	N. W. F. P.	Other than British Possessions.	Firms outside India.	Total.
1. Stores falling under Rule 4 of the Rules for the supply of articles required to be purchased for the public service:— Important plant and machinery and Iron and steel work ..	29	8	3	3	1	2	..	1	2	..	..	..	..	1,281	1,330
Other Stores.															
2. Railway materials	78	53	5	11	16	4	11	8	5	..	1	..	1	73	266
3. Mechanical equipment ..	181	146	25	36	41	18	28	32	4	..	1	1	8	310	831
4. Electrical equipment ..	120	103	20	27	32	15	26	15	3	..	..	1	9	217	588
5. Structural engineering ..	20	7	3	2	4	2	7	3	..	..	..	..	2	2	52
6. Hardware	117	41	25	25	41	38	22	13	4	1	1	1	13	81	423
7. Implements and Tools ..	72	52	11	16	24	15	14	11	2	..	2	1	5	65	290
8. Metals	99	71	16	17	22	10	18	15	5	1	..	1	3	45	323
9. Oils	59	38	4	15	13	12	7	8	1	1	2	..	9	21	190
10. Paints	65	46	14	17	9	2	8	8	2	1	2	..	6	28	208
11. Chemicals (excluding medicines and drugs)	57	29	8	8	12	9	8	9	1	..	..	..	3	5	149
12. *Textile Stores.*—															
(*a*) Cotton materials ..	99	93	4	12	47	46	13	10	..	5	..	4	10	21	381
(*b*) Woollen materials ..	26	23	2	6	17	24	13	2	..	..	..	3	13	2	131
(*c*) Jute, flax and hemp materials	66	25	6	3	19	8	5	5	1	1	..	..	3	11	153
(*d*) Silk goods	1	..	..	..	..	1	..	..	..	..	..	..	1	9	12
13. Leather goods	21	18	4	3	12	20	7	3	..	..	..	1	..	3	92
14. Miscellaneous Stores ..	333	248	51	68	124	80	84	44	10	12	3	3	28	189	1,277
15. Scientific instruments and Laboratory equipment ..	33	16	1	6	10	5	3	2	..	1	..	..	..	21	98
Total ..	1,476	1,017	202	275	444	311	291	189	40	23	12	16	114	2,384	6,794
Overlapping figures for firms registered for more than one item	893	590	104	130	161	114	139	120	11	5	9	5	46	236	2,563
Net Total ..	583	427	98	145	283	197	152	69	29	18	3	11	68	2,148	4,231

67. *Registration of firms on local Purchase Circle Lists.*—In addition to the firms mentioned in the preceding paragraph, 52 firms were added to the local lists of approved suppliers maintained for the use of the Provincial organizations of the Department. Of these 24 are located in Bengal, 26 in Bombay and 2 in Sind. The total number of firms registered on local lists in various territories on the 31st March 1939 was as follows :—

Territory.	Registered on the list of the Controller of Purchase, Calcutta Circle.	Registered on the list of the Controller of Purchase, Bombay Circle.	Registered on the list of the Controller of Purchase Karachi Circle.	Total.
Bengal..	367	..	..	367
Bombay	..	249	..	249
Sind	..	..	121	121
Madras	20	20	..	20
United Provinces ..	2	..	..	2
Bangalore (Civil and Military Station).	1	1	..	1
Bangalore (Mysore State)..	3	3	..	3
Total ..	393	273	121	763

68. *List of firms registered for important plant, machinery and iron and steel work.*—This list is issued under the provisions of Rule 4 of the " Rules for the supply of articles required to be purchased for the Public Service ". One hundred and fifty-four new firms were registered and the names of forty-four firms were removed from the list during the year. The total number on the list at the end of the year stood at 1,330. This list, though mainly issued for the information of the purchasing officers of the Central Government, has been adopted by several Provincial Governments. Copies of the list can be obtained on payment from (*i*) The Manager of Publications, Civil Lines, Delhi (*ii*) The Government of India Book Depot, 8, Hastings Street, Calcutta, and (*iii*) The Office of the High Commissioner for India, India House, Aldwych, London, W. C. 2.

CHAPTER VIII.

ENCOURAGEMENT OF INDIAN INDUSTRIES.

69. *Advice to manufacturers and encouragement to Indian Industries.*—The Department continued to take advantage of every opportunity that offered to encourage and assist manufacturers in India in improving the quality of their products by means of technical advice and suggestions in the course of purchase and inspection. Every possible endeavour was made to substitute supplies of indigenous manufacture without sacrifice of economy and efficiency. A few notable instances are cited in the following paragraphs :—

(1) *Serge, ordinary, blue.*—Serge, ordinary, blue 54" wide, required for the Defence Services, used to be obtained from abroad. With a view to ascertaining whether acceptable material could be manufactured in India, a sample was obtained and an enquiry issued to various woollen mills in the country. One mill's sample was reported as acceptable by the Defence authorities, with the result that serge blue has now been classified as an item to be purchased in India and indents for future requirements will be placed on this Department.

(2) *Khaki pugri cloth.*—An indenting officer asked for khaki pugri cloth obtainable from abroad at annas 0-4-2 per yard. The likely indigenous manufacturers were addressed with a view to obtaining a substitute made in India. The sample received from a mill in Nagpur has been accepted by the indenting officer for his future requirements. The Indian cloth is priced at annas 0-3-10 per yard, which means an appreciable saving to the indenting department, apart from diverting the demand to the Indian market.

(3) *Mosquito Netting.*—Indian manufacturers were invited to avail of the Department's assistance in the matter of the manufacture of netting in India. This stimulated the interest of an Ahmedabad firm, which has now installed a plant which is producing and has been successful in obtaining an order for 1,00,000 yards.

It is hoped, that, with the experience gained by this mill in the initial supply, the output in India will shortly be sufficient to meet the total requirements of the Army, thereby completely diverting the supply of this material to India.

(4) *Ceiling and table fans.*—Manufacturers at Calcutta, Bombay, Lahore and Agra were advised to carry out certain improvements in the design and workmanship of their fans. As a result of these improvements it has been possible to include certain fans in the annual rate contracts of the Department.

(5) *Railway carriage fans and regulators.*—Against a demand from a Railway for carriage fans and regulators, a firm in Calcutta quoted for their own products, which, when tested at the Government Test House, were found to be defective in some respects. The firm was advised to remove those defects, after which an order was placed with them.

(6) *Railway carriage single light roof fittings.*—A firm at Bombay quoted for single light roof fittings required for a Railway. The sample of the fitting submitted by the firm did not however comply fully with the relevant I. R. S. drawing and required some modifications. The defects were pointed out to the firm. They submitted a further improved sample, which was found acceptable, and an order was placed with them.

(7) *Helical door springs.*—Helical door springs of Indian manufacture, which were available in the market, were found to be defective and not uniform in quality. After investigation and advice to the manufacturers, a definite improvement in quality has been effected and a rate contract has been arranged.

Among other articles, to which special attention was devoted during the year, for the purpose of developing their manufacture in India or their utilization in preference to imported articles, the following may be mentioned :—

Insulators, train lighting lead acid cells, anti-waste cocks, hose pipes, pillar letter boxes, handcuffs, cotton tapes, beaters, grass mowers, barbed wire, scissors and military pattern knives.

70. *Important purchases of articles of Indian manufacture.*—The Department continued its efforts to substitute, wherever possible, and without sacrifice of efficiency or economy, articles of indigenous manufacture for imported products. The following is a list of the more important contracts placed during the year for products which were wholly or partially produced or manufactured in India :—

Textiles and Leather Goods.

	Rs.
Bags, sand, jute	1,92,50,000
Cotton waste	9,99,000
Drills	9,96,000
Tents and tent components	6,89,000
Flannel	5,59,000
Blankets and blanketting cloth	4,93,000
Jackets, jerseys and waistcoats, etc.	4,83,000
Garments and uniforms	4,31,000
Socks, stockings, gloves, etc.	3,54,000

	Rs.
Pugree cloths, dyed and bleached	3,43,000
Greatcoats and greatcoat cloth	3,20,000
Paulins, flax, jute, hemp, etc.	3,01,000
Putties, cotton and woollen	2,50,000
Serges	2,49,000
Wool, cotton, absorbent..	2,31,000
Dhotie cloth, long cloth, bandage cloth and dosuti cloth ..	1,80,000
Sheets, barrack and hospital	1,36,000
Bags, postal (jute, flax and leather)	1,10,000
Rugs, Horse	1,16,000
Dust shields, leather, for axle boxes	1,10,000
Durries	93,000
Tape and webbing	93,000
Capes and coats, waterproof	89,000
Duck cloth	84,000
Twill, cotton	84,000
Thread, sewing and twine	77,000
Boots and shoes	71,000
Canvas, cotton and jute	69,000
Ropes, head and heel, manilla, etc.	67,000
Cloth jaconet, dungree, etc.	66,000
Carpets	62,000
Cordages, cotton, hemp, etc.	61,000
Cloth, cotton, cord	58,000
Nets, mosquito	51,000
Hides, skins and leather accoutrements	51,000
Gauze, absorbent	49,000
Flannelette	47,000
Yarn, cotton	43,000
Bags, canvas, flax and gunny	38,000
Towels and towelling cloth	38,000
Dusters, table cloth and handkerchiefs, etc.	34,000
Wool, stuffing, packing and trimmings	29,000
Covers and nets, tanks, mule, etc.	21,000

	Rs.
Caps, cotton, balaclava	18,000
Covers, bonnet, for motor cars	17,000
Cases, pillow, mattresses, etc.	16,000
Hessians and gunnies	15,000
Coir and coir made articles	15,000
Buntings and flags	15,000
Shirts, blouses, etc.	11,000
Drawers, woollen	11,000
Cloth stockinette and cambric	10,000
Kullahs, lungies and fringes	10,000

Engineering and Miscellaneous Stores.

Railway permanent way materials and fittings	46,69,000
Mild steel sections and sheets	34,62,000
Road dressing materials	18,22,000
Axles, tyres, wheels, screw coupling and underframe parts for railway wagons and locomotives	16,71,000
Cement	16,62,000
Paints, enamels, varnishes, including turpentine, rosin and bituminous solution	16,25,000
Oil, fuel and lubricating, including greases	14,11,000
Pig iron	10,58,000
Steel structures, tanks and stagings	10,32,000
Pipes and specials, Cast iron	7,62,000
Coal	5,87,000
Fans, electric	5,68,000
Cables, conductors and transmission line materials	5,66,000
Vacuum brake fittings	4,80,000
Gases	4,19,000
Lamps, electric	3,99,000
Bodies for motor chassis	3,79,000
Oil, linseed	3,36,000
Bolts, nuts, rivets, etc.	3,34,000
Sheets, mild steel galvanised	3,29,000
Signalling and interlocking materials	3,12,000

	Rs.
Furniture, steel	3,11,000
Bricks, fire and fireclay	2,85,000
Tyres and tubes, rubber	1,82,000
Creosote	1,72,000
Tools including track tools and hand tools	1,65,000
Acids and chemicals	1,28,000
Timber	1,25,000
Cells, primary and secondary, and spares	1,03,000
Hume pipes	1,02,000
Sheets, asbestos cement and accessories	96,000
Division plates	84,000
Fencing materials	71,000
Door and window fittings	69,000
Steel, spring, tool	64,000
Soaps	53,000
Locks	52,000
Lead	44,000
Pipes and specials, stone ware	38,000
Weighing machines and weigh-bridges	34,000
Cranes, lifts, hoists	30,000
Cotters and split pins	29,000
Miscellaneous fittings, water supply	28,000
Spirit, methylated	26,000
Pipes, asbestos cement pressure	26,000
Tar, crude	25,000
Graphite and plumbago	25,000
Engineering plant, machinery and spares	24,000
Wire, mild steel	23,000
Fittings, locomotives and boiler	22,000
Belting	21,000
Wagons and trucks	20,000
Petrol	19,000
Gas plant	18,000
Steel ingots	18,000

	Rs.
Scales	14,000
Flooring compositions	14,000
Sanitary fittings	14,000
Letter boxes	12,000
Chests and safes	12,000
Lanterns and chimneys	12,000
Cylinders, cast iron	11,000
Keys, wooden, babul	11,000
Wire ropes	11,000
Road signs and sign boards	11,000
Feathercrete blocks	11,000
Bars, stretcher	10,000

71. *Exhibition of Indian Manufactures.*—Mention has been made in the previous reports of the arrangements made in the Imperial Secretariat Buildings, North Block, New Delhi, for exhibiting articles of indigenous manufacture. The exhibition is now fairly representative of the various classes of indigenous articles purchased by the Department. During the year the following exhibits were received from manufacturers in India :—

Electrical lamps, oils, paints, varnishes, steel sections and samples of raw materials, such as iron ore, manganese ore, lime stone, fireclay, coal etc., used in steel making.

CHAPTER IX.

FINANCE.

72. *Statistics of Income and Expenditure.*—A financial statement showing the income and expenditure for the year 1938-39, and similar information for each of the preceding three years, will be found in Appendix XVIII.

The statement includes, under income, recoveries from Provincial Governments, commercial departments and undertakings of the Central Government and other authorities, to whom charges are made for the services rendered by the Department. It also includes a *pro forma* credit, calculated at schedule rates, for work done on behalf of non-commercial civil departments of the Central Government, against whom no charges are made.

The figures on the expenditure side of the statement include all direct expenditure, as well as items of indirect charges which are usually incorporated in the profit and loss accounts of commercial undertakings.

The total income of the Department during the year (including credit for work done but not charged for) amounted to Rs. 21,61,993, showing a further advance of Rs. 91,815 over the turnover of 1937-38 (Rs. 20,70,178), which exceeded all previous records and was over Rs. 4 lakhs above 1936-37. Recoveries on account of purchase and inspection of stores against indents placed with the Department increased by Rs. 18,877, and fees earned on stores inspected on behalf of other authorities and on tests and analyses carried out at the Government Test House and the Metallurgical Inspectorate exceeded the corresponding figure of the preceding year by Rs. 72,611. Miscellaneous receipts on account of sale proceeds of tender forms, etc., increased by Rs. 327.

The total direct and indirect expenditure for the year 1938-39 amounted to Rs. 26,43,516 against Rs. 26,73,591 in the preceding year. There was a saving of Rs. 30,075, in spite of the usual growth of expenditure on account of annual increments, due partly to emergency measures adopted in pursuance of the economy campaign, and partly also to retirement of senior officers under the age rule. As a result of the increase in income and reduction in expenditure referred to above, the net improvement in the balance sheet of the Department amounted to Rs. 1,21,890.

R. W. TARGETT,
Chief Controller of Stores,
Indian Stores Department.

SIMLA;
Dated the 8th July, 1939.

APPENDIX I.

(*Vide* PARAGRAPH 8.)

Hints for the guidance of authorities in India desirous of utilising the services of the Indian Stores Department.

Authorities for which the Indian Stores Department is permitted to act.—The Indian Stores Department is authorised to arrange for the purchase and inspection of stores on behalf of all Government departments, Central as well as Provincial, State and Company Railways, Indian States and *quasi*-public bodies in India. It must be understood, however, that the Department acts merely as an agent in this connection and is not in any way responsible as principal either to the seller or to the buyer

2. The services of the Department can be utilised for the inspection of stores, orders for which are placed by the consuming authorities direct, and for the testing and analysis of materials at the Government Test House and the Metallurgical Inspectorate, by Government departments, Company Railways, *quasi*-public bodies and Indian States, as well as by private parties.

3. *Classes of stores which can be purchased through the Indian Stores Department.*—The Indian Stores Department undertakes to arrange for the supply of all classes of stores except :—

(1) Foodstuffs and forage.

(2) Lethal stores.

(3) Stationery stores, printing stores and office machinery and appliances as detailed in the appendix to the Rules for the Supply of Printing and Stationery Stores for the Public Service.

(4) Medical stores.

(5) Mathematical instruments, which under standing orders are to be obtained from the Mathematical Instrument Office.

(6) Scientific instruments and accessories of a special character which involve a departure from standard.

(7) Straw, firewood and charcoal.

(8) Road metal, bricks, stone, marble and similar building materials, lime, sand and chalk.

(9) Indian made wooden and cane furniture, country carts and boats, ordinary packing cases, hand carts, trucks and trolleys which can be satisfactorily and economically obtained from local sources.

4. *Organisation of the Purchase Branch.*—Besides a purchase branch in the Headquarters office, divided into a number of sections dealing with different classes of stores, which will, in future, be located at the Imperial Secretariat Buildings, New Delhi, throughout the year, Provincial Purchase circles are located at Calcutta, Bombay and Karachi. The Postal and Telegraphic addresses of these Circles and their scope of operations are given below :—

Postal address.	*Telegraphic Address.*	*Territory within which allowed to operate.**
Controller of Purchase, Calcutta Circle, Indian Stores Department, 6, Esplanade East, Calcutta.	Storchase, Calcutta ..	Bengal, United Provinces, Assam, Bihar, Orissa, Delhi, Madras Presidency, (Northern parts), the Punjab, and Burma and anywhere in India in the case of indents received from indenting authorities in the Andamans.

* This has reference to the market in which the order is placed and not to the Headquarters of the indenting officer.)

Postal Address.	Telegraphic Address.	Territory within which allowed to operate.*
Controller of Purchase, Bombay Circle, Indian Stores Department, Central Government Offices Building, Queen's Road, Fort, Bombay.	Storchase, Bombay ..	Bombay Presidency and Central Provinces, the Madras Presidency (Southern and Western parts), the Punjab and Delhi (and Cawnpore for textiles only), Calcutta, for proprietary articles for the Great Indian Peninsula Railway.
Controller of Purchase, Karachi Circle, Indian Stores Department, 8/5, Civil Lines, Dr. Wrench Road, Karachi Sadar, P. O. Karachi.	Storchase, Karachi ..	Sind, Baluchistan, the Punjab, and Delhi (also Cawnpore for textiles only).

5. Indents may be placed with the Provincial Controllers of Purchase at Calcutta, Bombay, and Karachi, up to the limits detailed below except that indents for plant and machinery of a value exceeding Rs. 5,000 should normally be placed on the Headquarters Office—

I. Controller of Purchase, Calcutta Circle—

(1) For jute goods up to Rs. 50,000.

(2) For other stores up to Rs. 15,000.

II. Controller of Purchase, Bombay Circle.

(1) For cotton yarn for the Jail Department, Bombay, up to Rs. 25,000.

(2) For other stores up to Rs. 15,000.

III. Controller of Purchase, Karachi Circle—

For all stores up to Rs. 15,000.

Indents exceeding these limits should be placed on the Headquarters Office.

6. *Instructions for the preparation of indents.*—Indents should be submitted on the standard Indian Stores Department Indent form (I. S. D.-28) supplies of which can be obtained on application from the office of the Chief Controller of Stores or from any of the Purchase Circles at Calcutta, Bombay and Karachi, or Inspectorates at Lahore, Cawnpore, Madras and Tatanagar. The items indented for should be described in sufficient detail and any additional information should be given which will assist in the disposal of the indent, *e.g.*, references to catalogues or to previous supplies. The purpose for which stores are required should always be stated and reference to previous supply should be made when duplicates are required.

7. As different classes of stores are dealt with in different sections of the Purchase Branch of the Indian Stores Department, separate indents should, as far as practicable, be prepared for stores of various categories as indicated on the indent form, to facilitate quick disposal of the indents.

8. Indents for the purchase of plant and machinery should provide the fullest information possible and particular care should be taken to see that all peculiar local or special conditions, which might involve departures from normal standards, are mentioned.

9. Indents for spare parts should be compiled from maker's spare parts catalogues where available and care should be taken to quote the correct symbol, number and nomenclature, or code word applicable to the particular type of plant. The maker's number

***(This has reference to the market in which the order is placed and not to the Headquarters of the indenting officer).**

of the machine should also be stated. Failing this, the date and source of original supply should be given. In dealing with demands of this kind drawings are frequently essential.

10. Sufficient time should be allowed to the Department for arranging the purchase of stores. Additional expenditure is frequently involved in arranging purchases at short notice.

A specific date should be stated in the indents by which the stores are required, and expressions such as 'immediately', 'as early as possible' or 'urgent' should be avoided. These expressions are constantly used, but they defeat their own object by making it impossible for the Indian Stores Department to differentiate between the degree of urgency of the various indents.

Indenting officers are also requested to spread the demands made on the Indian Stores Department evenly over the whole year as far as possible. The concentration of a large number of orders towards the close of the year not only tends to entail extra expenditure and inconvenience but makes for difficulties in the efficient disposal of the business connected with the purchase and inspection of stores.

11. Indentors should clearly state whether the goods are to be booked by goods or passenger train, whether at 'Owners' or at "Railway" Risk and whether they are to be insured on rail.

12. It is desirable that wherever possible the Indian Stores Department should be made aware of the approximate amount which the indentor expects to pay for the stores indented for. To this end against each item the last price paid should be entered in the 'estimated cost' column in the indent form. The estimated cost of freight and the Indian Stores Department fees should be added to the total. If information as to the latest price paid is not available a rough estimate should be given.

13. In the case of authorities with whom adjustments are made through the exchange account the appropriate certificate of availability of funds on page 4 of the indent form should be completed on all indents, and in the case of others the treasury receipt or bank deposit receipt must accompany or follow the indents, *vide* paragraph 18.

14. *Disposal of indents.*—The Indian Stores Department holds no stocks of stores of any kind. On receipt of an indent supply is arranged either by placing a separate order for the stores demanded or by combining the demand with others for compliance under a general contract, or, where convenient, under a 'running' or 'rate' contract. Copies of all orders are endorsed to indenting officers and consignees (if other than indenting officers).

15. In the event of the quotation which it is proposed to accept being considerably higher than the amount estimated by the indentor, a reference is made to him before the order is actually placed. In the absence of any special instructions on this point, the practice is to refer to the indentor if his estimate of the total cost of the stores demanded in any one indent is likely to be exceeded by 10 per cent. or Rs. 10,000, excepting when the total cost is not more than Rs. 1,000 in which case no reference to the indentor is made.

16. A list of items for which Rate and Running contracts were entered into during the year 1937-38, is given in Appendix IX. A list of the contracts in force, or copies of those in which an intending indentor may be interested, will be furnished on application. Arrangements can be made to enable Government officers, intending to avail themselves of the facilities, to requisition against such contracts direct from firms.

17. *Adjustment of accounts.*—Debits for the cost of stores purchased through the Indian Stores Department by Government officers and for the departmental fees for purchase (and inspection) levied by the Indian Stores Department, are raised by the Audit Officer, Indian Stores Department, against the Accounts Officer of the consignee in the account of the month in which the suppliers' bills are paid, and exchange accounts showing all such transactions are sent by the Audit Officer, Indian Stores Department, to the Accounts Officer concerned, in the beginning of the second month after that to which the transactions pertain. Advance intimations of payments are sent to the consignees by the Audit

Officer, Indian Stores Department, after a week of the date of payment, to keep the former informed of their liabilities and expenditure, in respect of bills paid direct on certification by Inspectorates or in cases in which amounts passed by consignees are altered in audit, or when payment is made in a financial year subsequent to that in which the bill is passed by the consignee.

18. In the case of authorities against whom book debits cannot be raised, *e.g., quasi*-public bodies and Indian States, the indenting officers have the option either—

(*a*) of placing a sum equivalent to the estimated cost of the stores, *plus* the departmental fees payable for the services of the Indian Stores Department, to the credit of the Audit Officer, Indian Stores Department, in a Government treasury, forwarding the treasury receipt with the indent ; or

(*b*) of depositing in a branch of the Imperial Bank of India in the name of the Audit Officer, Indian Stores Department, a sum of money sufficient to cover the estimated cost of the stores, *plus* departmental fees, with instructions to the bank that the sum should be strictly reserved for the purpose of meeting demands from the Audit Officer, Indian Stores Department, which should be complied with by the transfer of the amount to the Government account. The deposit receipt granted by the Bank should be forwarded with the indent.

The latter alternative has been introduced to avoid large sums of money being locked up without interest.

The Government of India have waived the condition of advance deposits in the case of local funds over whose expenditure Government retains complete and direct control.

19. *Inspection, Testing and Chemical Analyses.*—The inspection and testing staff of the Indian Stores Department is located at places noted below :—

Postal Address.	Telegraphic Address.
The Controller of Inspection, Calcutta Circle, Indian Stores Department, 6, Esplanade East, Calcutta	Storspect, Calcutta.
The Controller of Inspection, Bombay Circle, Indian Stores Department, Central Government Offices Building, Queen's Road, Fort Bombay	Storspect, Bombay.
The Assistant Controller of Inspection, Karachi Circle, Indian Stores Department, 8/5, Civil Lines, Dr. Wrench Road, Karachi Sadar, P. O. Karachi	Storspect, Karachi.
The Assistant Controller of Inspection, Upper India Circle, Indian Stores Department, 28-A, Empress Road, Lahore	Storspect, Lahore.
The Inspector-in-Charge, Cawnpore Inspection Branch, Indian Stores Department, 254, Nawabganj, Cawnpore	Storspect, Cawnpore.
The Inspector-in-Charge, Madras Branch, Indian Stores Department, Old High Court Buildings, Madras ..	Storspect, Madras.
The Metallurgical Inspector, Indian Stores Department, Burma Mines, Tatanagar	Metalspect, Tatanagar.
The Deputy Metallurgical Inspector, Indian Stores Department, Hirapur, P. O. Burnpur	
The Superintendent, Government Test House, 11/1, Judge's Court Road, Alipore, Calcutta	Testhouse, Calcutta.

20. These organizations undertake the analyses, tests and investigations of chemicals and other stores, and inspection of material purchased by the Indian Stores Department or by any other purchasing authorities. Where necessary, inspection in the country of origin is also arranged through the Director General, India Store Department, London.

No additional charges are levied by the Department for the cost of such inspection.

21. Requests for inspection of purchases not made through the Indian Stores Department should be addressed to the nearest Inspectorate, or to the Chief Controller of Stores, Indian Stores Department, Inspection section, on form I. S. D.-40, copies of which can be obtained from him or any Inspectorate, free of charge. Requests for tests or analyses should be addressed to the Superintendent, Government Test House, Alipore, Calcutta, or the Metallurgical Inspectorate, Tatanagar, as the case may be.

22. *Complaints.*—In the event of serious complaints in regard to quality or price of stores, or delay in supply, full details should be furnished to the Chief Controller of Stores, Indian Stores Department, when they will be carefully investigated. Minor complaints should, however, be referred to the supplying firms direct, and, if necessary, a copy of the complaint endorsed to the inspecting officer concerned in cases where the stores have been inspected by the Indian Stores Department. Complaints regarding adjustment of accounts should be addressed to the Audit Officer, Indian Stores Department, New Delhi. If a matter is not satisfactorily settled, it should be referred to the Chief Controller of Stores.

23. Before making complaints regarding delay in supply, indentors are requested to take into consideration the time required for inspection and for transit from place of supply to destination. Complaints are not uncommon in regard to which this consideration has been entirely overlooked. Similarly before complaining of delay in raising debits, indentors are asked to ensure that the bills have not been delayed by the consignees, it having been found that this is a frequent cause of delay in such cases.

24. All complaints should be made as promptly as possible, as delay may prejudice the chances of obtaining redress, particularly if arbitration or legal proceedings are involved.

25. *Rejections and disposal of rejected stores.*—In the case of orders placed by the Indian Stores Department, this Department is the contracting party, and the final rejection of stores lies within its competence alone. Therefore, it is not possible for an indenting officer or consignee to reject stores which have been accepted by the Department. In cases in which an indenting officer considers that grounds for the rejection of such stores exist a full report should be forwarded immediately to the Indian Stores Department Inspectorate concerned, and the goods complained of should be carefully stored to avoid loss or deterioration pending investigation by the Department and issue of final instructions as to their disposal. Should it be decided that the stores should be rejected, intimation to this effect will be furnished immediately to the contractor by the Indian Stores Department, and he will be informed that the stores lie at his risk from the date of such rejection and that if not removed within a fortnight of rejection the purchaser will have the right to dispose of the stores as he thinks fit, at the contractor's risk and on his account.

If supplies against an order not exceeding Rs. 5,000 in value are received in a damaged or defective condition and the consignee proposes to accept them at a reduced price to which the supplier is agreeable, he may do so without reference to the Purchase Officer. An intimation of the reduction made should, however, be given to the Purchase and Inspecting Officers concerned for information and record in their books.

If the value of the order exceeds Rs. 5,000, the final decision to assess the reduced price for defective or damaged stores will rest with the Purchase Officer and all such cases should be referred to that officer.

All cases in which the supplier and the consignee are unable to come to an agreement will, of course, be referred to the Purchase Officer, irrespective of the value of the order.

26. Cases occasionally occur in which stores are despatched to their destination after merely a visual examination at the contractor's premises, works or godowns, on the understanding that their final acceptance or rejection shall depend on the results of the tests carried out at the Government Test House. In such cases if the stores are rejected, the contractor will be informed at once, and the stores will lie at the consignee's depot at the contractors risk from the date of such rejection, and, if not removed within a fortnight of rejection, the consignee will have the right to dispose of them as he thinks fit, at the contractor's risk and on his account.

27. Similarly, stores, which are rejected by the inspecting officer appointed by the Indian Stores Department, after delivery under the terms of the contract for inspection at the consignee's depot, will lie at the consignee's depot, at the contractor's risk from the date of such rejection, and if not removed within a fortnight of rejection, the consignee will have the right to dispose of them as he thinks fit, at the contractor's risk and on his account.

28. Stores rejected in the circumstances indicated above and not removed by the contractor within the period allowed for such removal should be disposed of by the consignee, either by return to the contractor or in such other manner as he considers most suited to the circumstances in each case.

29. The expiry of the period allowed for removal brings into operation the consignee's (Bailee's) right to sell or otherwise dispose of the goods. His liabilities for negligence will, however, continue so long as the goods are in his custody. He cannot, for instance, leave the stores unprotected or in the open exposed to sun and rain, and then disclaim responsibility for loss or damage arising out of such causes. He is expected to exercise such reasonable care of the goods as under the circumstances he would have exercised of his own.

NOTE.—It should be understood that the foregoing instructions (paras. 25 to 29) apply only to stores which are purchased and inspected by the Indian Stores Department.

30. *Departmental fees.*—Under the orders of the Government of India the Indian Stores Department levies a fee of 1 per cent. for purchase and 1 per cent. for inspection on the cost of orders placed on behalf of all authorities in India except the non-commercial civil departments of the Cetral Government.

The fee of 1 per cent. for inspection includes all sampling and testing before the contract is concluded and also, where necessary, sampling and testing during the currency of the contract. These charges are adjusted by the Audit Officer, Indian Stores Department, with the cost of stores.

31. The fees for analyses and tests of chemicals and other stores, and for inspection of purchases made by other authorities, carried out at the Government Test House, the Metallurgical Inspectorate or any other organization under the Inspection branch of the Department, are given in detail in the schedules prescribed by the Government of India, copies of which can be obtained from the Manager of Publications, Civil Lines, Delhi. Bills for these charges are prepared by the heads of inspection or testing organizations and forwarded to the parties concerned for acceptance and adjustment through exchange account in the case of authorities having exchange accounts and payment in cash, either direct or into the nearest Government treasury, in the case of other authorities and private concerns.

32. No charge is made for services rendered by any branch of the Department (including the Government Test House and Metallurgical Inspectorate) to non-commercial Civil departments of the Central Government.

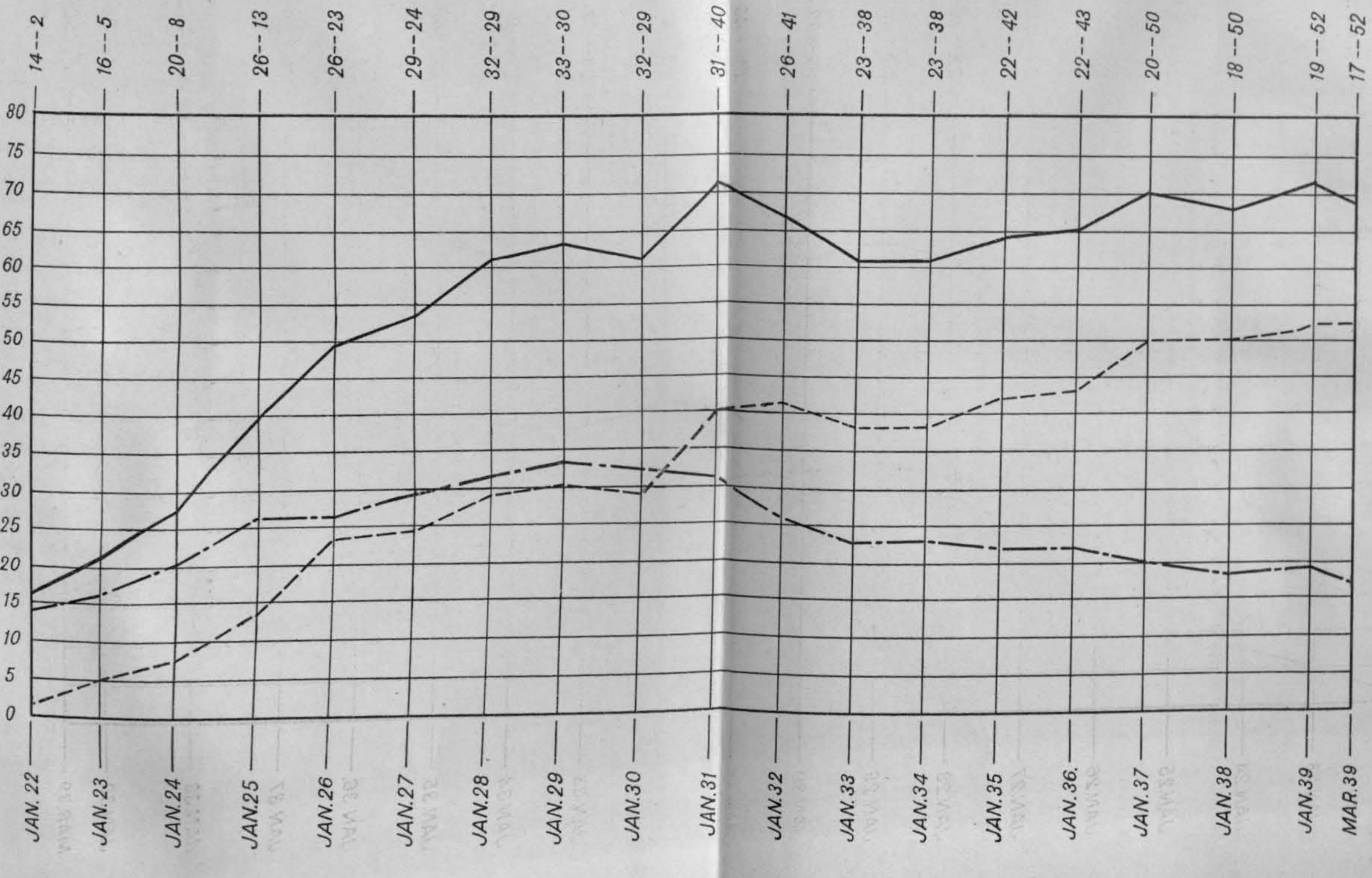
APPENDIX III

INDIAN STORES DEPARTMENT.

GAZETTED STAFF UP TO 31st MARCH 1939.

(Vide paragraph 12 of the report).

TOTAL.................. ————
INDIANS............... – – – – –
NON-INDIANS...... —·—·—



APPENDIX IV.

Statement showing details of the communal composition of the staff employed in the Indian Stores Department.

(*Vide* paragraph 15 of the Report.)

Particulars.	Direct recruitment during 1938. (Departmental promotions not included.)									Total on 1st January 1939.									Total on 1st January 1938.								
	Hindus.	Mohammadans.	Sikhs.	Indian Christians.	Anglo-Indians.	Other Indian communities.	Total Indians.	Europeans.	Total.	Hindus.	Mohammadans.	Sikhs.	Indian Christians.	Anglo-Indians.	Other Indian communities.	Total Indians.	Europeans.	Total.	Hindus.	Mohammadans.	Sikhs.	Indian Christians.	Anglo-Indians.	Other Indian communities.	Total Indians.	Europeans.	Total.
Gazetted Staff.																											
Chief Controller of Stores	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1
Administration and Intelligence Branch.	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2	..	2	2	..	..	..	..	..	2	..	2
Purchase Branch	..	..	..	..	..	..	..	..	..	9	1	..	1	..	..	11	3	14	9	1	..	1	..	..	11	3	14
Inspection Branch	..	2	..	..	..	..	2	1	3	23	8	1	1	3	1	37	13	50	25	5	1	1	3	1	36	12	48
Industrial Research Bureau ..	..	1	..	..	..	..	1	..	1	1	1	..	..	..	..	2	2	4	1	..	..	..	..	..	1	2	3
Total ..	..	3	..	..	..	..	3	1	4	35	10	1	2	3	1	52	19	71	37	6	1	2	3	1	50	18	68
Subordinate Technical Staff.																											
(1) Examiner of Stores	3	1	..	..	..	..	4	..	4	31	6	3	2	1	..	43	..	43	31	6	4	2	1	..	44	..	44
(2) Chemical Assistants	3	..	..	..	..	..	3	..	3	27	4	..	..	..	..	31	..	31	26	4	..	..	..	..	30	..	30
(3) Physical Assistants	..	1	..	..	..	..	1	..	1	14	2	..	..	..	1	17	..	17	14	1	..	..	..	1	16	..	16
(4) Drawing Office Staff	..	1	..	..	..	..	1	..	1	7	4	1	..	..	..	12	..	12	7	4	1	..	..	..	12	..	12
(5) Other technical staff (Technical Assistants, Laboratory fitters, etc.)	1	1	..	..	..	..	2	..	2	19	4	..	1	..	1	25	..	25	18	3	..	1	..	1	23	..	23
Total ..	7	4	..	..	..	..	11	..	11	98	20	4	3	1	2	128	..	128	96	18	5	3	1	2	125	..	125
Clerical Staff.																											
Headquarters	14	3	1	..	..	..	18	..	18	135	32	13	2	2	..	184	..	184	133	34	13	2	2	..	184	..	184
Subordinate Offices	5	4	..	1		..	11	..	11	159	42	6	15	2	1	225	..	225	156	43	6	15	1	1	222	..	222
Total ..	19	7	1	1	1	..	29	..	29	294	74	19	17	4	1	409	..	409	289	77	19	17	3	1	406	..	406
GRAND TOTAL ..	26	14	1	1	1	..	43	1	44	427	104	24	22	8	4	589	19	608	422	101	25	22	7	4	581	18	599

APPENDIX V.

Value of stores purchased. (Vide *paragraphs 2 and 16 of the Report.*)

—	Year.	Calcutta.	Bombay.	Karachi.	Total Provincial Circles.	Headquarters.	Grand Total.
Textiles	1935-36	6,38,379	2,21,537	22,178	8,82,094	90,40,150	**99,22,244**
	1936-37	5,46,802	2,29,793	50,882	8,27,477	1,06,84,652	**1,15,12,129**
	1937-38	5,91,813	2,60,046	54,605	9,06,464	1,49,06,680	**1,58,13,144**
	1938-39	5,36,432	2,17,679	44,808	7,98,919	2,80,20,527	**2,88,19,446**
Engineering and Miscellaneous stores	1935-36	44,76,595	14,37,468	16,25,100	75,39,163	3,84,43,459	**4,59,82,622**
	1936-37	38,30,912	14,07,417	11,59,995	63,98,324	4,69,96,081	**5,33,94,405**
	1937-38	57,35,428	16,47,646	14,17,790	88,00,864	5,43,17,370	**6,31,18,234**
	1938-39	42,09,448	13,01,268	15,36,593	70,47,309	5,18,44,660	**5,88,91,969**
Total	1935-36	51,14,974	16,59,005	16,47,278	84'21,257	4,74,83,609	**5,59,04,866**
	1936-37	43,77,714	16,37,210	12,10,877	72,25,801	5,76,80,733	**6,49,06,534**
	1937-38	63,27,241	19,07,692	14,72,395	97,07,328	6,92,24,050	**7,89,31,378**
	1938-39	47,45,880	15,18,947	15,81,401	78,46,228	7,98,65,187	**8,77,11,415**

APPENDIX VI.

Statement showing the value of stores purchased on behalf of various authorities utilizing the services of the Indian Stores Department during the year 1938-39 and three preceding years. (*Vide paragraphs 2 and 16 of the Report.*)

Serial No.	Organization.	Purchases made during 1938-39.			Total for the year		
		Textiles and Leather.	Engineering, hardware and miscellaneous stores.	Total for 1938-39.	1937-38.	1936-37.	1935-36.
	Central—Defence.						
1	Quartermaster-General in India (including Mechanical Transport)	..	22,20,493	22,20,493	20,79,302	7,68,812	7,53,155
2	Master General of the Ordnance ..	42,83,853	1,04,879	43,88,732	1,09,84,558	64,85,721	47,24,036
3	Military Engineer Services	56,066	45,85,150	46,41,216	45,85,731	38,66,952	42,70,216
4	Royal Indian Navy ..	1,04,737	3,32,801	4,37,538	5,14,918	4,69,250	3,92,913
5	Royal Air Force ..	5,560	42,706	48,266	5,53,609	1,03,238	72,578
6	Other Military Authorities	1,98,882	8,413	2,07,295	1,80,100	2,57,398	1,53,867
	Total—Central Defence	46,49,098	72,94,442	1,19,43,540	1,88,98,218	1,19,51,371	1,03,66,765
	Central—Civil. (Including minor Administrations.)						
7	Government of India Secretariat and attached offices ..	42,604	10,607	53,211	62,023	1,25,685	1,01,686
8	Superintendent, Viceregal Estates ..	3,295	32,309	35,604	47,968	34,388	26,940
	Authorities subordinate to the Department of Communications.						
9	Indian Posts and Telegraphs Department	3,89,246	24,53,584	28,42,830	36,90,922	21,53,199	46,99,180
10	Civil Aviation Department	3,196	1,47,236	1,50,432	1,99,513	1,58,971	19,70,350
11	Other Authorities ..	1,695	3,16,698	3,18,393	4,98,836	Included under other authorities—Labour Department.	
	Total—Authorities subordinate to the Department of Communications ..	3,94,137	29,17,518	33,11,655	43,89,271	23,12,170	66,69,530

Organization.	Purchases made during 1938-39. Textiles and Leather.	Engineering, hardware and miscellaneous stores.	Total for 1938-39.	Total for the year 1937-38.	1936-37.	1935-36.
Authorities subordinate to the Labour Department.						
Printing and Stationery Department (India)	70,129	15,087	85,216	1,04,420	66,056	72,382
Central Public Works Department ..	30,141	4,67,486	4,97,627	6,56,920	11,89,646	4,00,584
Other Authorities ..	2,847	20,784	23,631	5,842	10,98,006	48,483
Total—Authorities subordinate to the Department of Labour	1,03,117	5,03,357	6,06,474	7,67,182	23,53,708	5,21,449
Authorities subordinate to the Commerce Department..	5,930	29,766	35,696	2,11,809	3,48,889	1,77,164
Authorities subordinate to the Finance Department.						
Northern India Central Excises and Salt ..	30,090	3,08,072	3,38,162	1,77,963	2,61,615	1,55,136
Other Authorities ..	26,475	82,043	1,08,518	2,98,454	2,17,484	1,27,986
Total—Authorities subordinate to the Finance Department..	56,565	3,90,115	4,46,680	4,76,417	4,79,099	2,83,122
Authorities subordinate to the Department of the Education, Health and Lands.						
Survey of India ..	54,178	6,826	61,004	69,429	57,990	50,893
Director General, Indian Medical Service	126	483	609	10,893	2,913	1,105
Other Authorities ..	12,231	1,66,760	1,78,991	1,85,930	1,73,677	1,22,758
Total—Authorities subordinate to the Department of the Education, Health and Lands ..	66,535	1,74,069	2,40,604	2,66,252	2,34,580	1,74,756

Serial No.	Organization.	Purchases made during 1938-39. Textiles and Leather.	Engineering, hardware and miscellaneous stores.	Total for 1938-39.	Total for the year 1937-38.	1936-37.	1935-36.
21	Authorities subordinate to the Political Department ..	1,15,387	39,681	1,55,068	1,74,886	1,22,945	1,50,620
22	Authorities subordinate to the External Affairs Department	19,116	64,123	83,239	87,084	*	*
	Minor Local Administrations.						
23	Baluchistan Administration	51,407	98,184	1,49,591	1,17,625	2,10,790	4,42,431
24	Coorg Administration	2,458	22,720	25,178	25,601	15,179	16,475
25	Ajmer-Merwara Administration ..	17,847	1,478	19,325	24,525	18,495	18,459
26	Andaman Commission	42,330	3,43,265	3,85,595	3,83,749	3,96,193	3,23,102
27	Delhi Administration	15,941	1,16,423	1,32,364	1,49,918	66,209	1,68,894
	Total—Minor Local Administrations ..	1,29,983	5,82,070	7,12,053	7,01,418	7,06,866	9,69,361
	Total—Central—Civil	9,36,669	47,43,615	56,80,284	71,84,310	67,18,330	90,74,628
	Railways—State-managed.						
28	North Western Railway	8,19,429	1,23,75,867	1,31,95,296	1,39,62,140	1,08,57,305	89,61,869
29	Eastern Bengal Railway	2,92,539	44,50,134	47,42,673	47,79,338	45,98,108	39,48,690
30	East Indian Railway	11,40,194	1,23,72,676	1,35,12,870	1,13,51,024	1,12,28,855	92,73,474
31	Great Indian Peninsula Railway ..	5,34,341	56,29,359	61,63,700	64,60,628	59,87,221	51,97,571
32	Central Publicity Bureau (Indian State Railways) ..	..	3,191	3,191	9,001	5,043	5,20[illegible]
33	Railway Clearing Accounts Office ..	336	227	563	413	251	6[illegible]
34	Chief Mining Engineer, Railway Board ..	20,716	7,13,135	7,33,851	5,51,611	97,198	..
35	Burma Railways ..	Included under British and Colonial Governments.				2,72,927	4,23,957
	Total—State-managed Railways ..	28,07,555	3,55,44,589	3,83,52,144	3,89,14,155	3,30,46,908	2,78,10,824

* Included in Political Department.

Serial No.	Organization.	Purchases made during 1938-39. Textiles and Leather.	Engineering, Hardware and miscellaneous stores.	Total for 1938-39.	Total for the year 1937-38.	1936-37.	1935-36.
	Railways—Company-managed.						
36	Assam-Bengal Railway	19,355	1,34,245	1,53,600	1,28,639	92,402	91,412
37	Bombay, Baroda and Central India Railway	..	23	23	..	2,96,903	..
38	South Indian Railway	75,787	2,51,641	3,27,428	2,92,842	2,73,820	3,05,984
39	Bengal Nagpur Railway	3,334	85,422	88,756	43,831	17,69,960	42,613
40	Madras and Southern Mahratta Railway..	1,434	2,68,121	2,69,555	3,05,935	3,98,465	2,36,197
41	Bengal and North-Western Railway ..	..	73	73	169	..	..
42	Darjeeling Himalayan Railway	..	..	..	..	1,627	..
43	Rohilkund and Kumaon Railway ..	..	..	..	..	275	..
	Total—Company-managed Railways ..	99,910	7,39,525	8,39,435	7,71,416	28,33,452	6,76,206
	ways—managed by Indian States.						
44	Jodhpur Railway ..	596	4,18,242	4,18,838	10,94,689	2,08,427	4,13,398
45	H. E. H. the Nizam's State Railway ..	44,887	46,441	91,328	68,566	73,517	1,14,296
46	Baroda State Railway	..	..	..	..	—36	6,720
47	Mysore Railways ..	..	424	424	996	252	..
48	Gwalior Railway .	..	35	35	..	..	..
49	Jaipur Railway .	..	8,47,520	8,47,520	..	..	..
	Total—Railways managed by Indian States	45,483	13,12,662	13,58,145	11,64,251	2,82,160	5,34,414
	Grand Total—Railways	29,52,948	3,75,96,776	4,05,49,724	4,08,49,822	3,61,62,520	2,90,21,444

Serial No.	Organization.	Purchases made during 1938-39. Textiles and Leather.	Engineering, hardware and miscellaneous stores.	Total for 1938-39.	Total for the year 1937-38.	1936-37.	1935-36.
	PROVINCIAL.						
	Madras.						
50	Public Works Department	145	7,01,436	7,01,581	7,13,230	8,79,645	11,55,091
51	Police Department ..	66,369	14,934	81,303	1,02,507	92,109	74,982
52	Jail Department ..	4,520	19,593	24,113	37,794	76,993	51,175
53	Other Departments ..	1,45,543	82,390	2,27,933	1,89,571	1,48,298	76,608
	Total—Madras ..	2,16,577	8,18,353	10,34,930	10,43,102	11,97,045	13,57,856
	Bombay.						
54	Public Works Department	310	3,76,886	3,77,196	5,57,133	3,27,936	8,17,507
55	Police Department ..	83,065	6,264	89,329	1,10,390	2,06,970	1,83,285
56	Jail Department ..	39,732	730	40,462	52,534	23,674	36,538
57	Other Departments ..	15,608	42,195	57,803	53,937	41,215	47,589
	Total—Bombay	1,38,715	4,26,075	5,64,790	7,73,994	5,99,795	10,84,919
	Bengal.						
58	Public Works Department	14	2,07,247	2,07,261	1,54,042	1,64,045	83,462
59	Police Department ..	..	1,262	1,262	1,367	1,805	16,305
60	Jail Department ..	28,539	342	28,881	47,571	62,674	93,279
61	Other Departments ..	79,851	27,182	1,07,033	1,14,279	1,19,371	50,374
	Total—Bengal	1,08,404	2,36,033	3,44,437	3,17,259	3,47,895	2,43,420
	United Provinces.						
62	Public Works Department	571	49,623	50,194	1,53,336	69,053	45,206
63	Other Departments ..	..	13,194	13,194	13,837	6,537	17,207
	Total—United Provinces ..	571	62,817	63,388	1,67,173	75,590	62,413
	Punjab.						
64	Public Works Department	24,993	27,00,427	27,25,420	31,18,646	21,61,569	18,50,112
65	Other Departments ..	80,108	2,74,926	3,55,034	3,26,469	3,84,384	3,59,684
	Total—Punjab ..	1,05,101	29,75,353	30,80,454	34,45,115	25,45,953	22,09,796

Serial No.	Organization.	Purchases made during 1938-39. Textiles and Leather.	Engineering, hardware and miscellaneous stores.	Total for 1938-39.	Total for the year 1937-38.	1936-37.	1935-36.
	PROVINCIAL—*contd.*						
	Bihar.						
66	Public Works Department	783	1,59,643	1,60,426	1,68,683	2,16,180	2,61,359
67	Other Departments ..	1,660	33,404	35,064	30,608	35,302	32,360
	Total—Bihar ..	2,443	1,93,047	1,95,490	1,99,291	2,51,482	2,93,719
	Central Provinces.						
68	Public Works Department	..	2,58,134	2,58,134	3,61,729	5,28,297	2,61,678
69	Other Departments ..	13,735	19,567	33,302	35,580	43,037	34,338
	Total Central Provinces	13,735	2,77,701	2,91,436	3,97,309	5,71,334	2,96,016
	Assam.						
70	Public Works Department	1,839	7,289	9,128	11,557	7,663	6,283
71	Police Department ..	79,541	3,751	83,292	1,31,399	95,816	94,358
72	Jail Department ..	7,422	1,807	9,229	3,757	6,384	17,990
73	Other Departments ..	3,812	3,879	7,691	10,199	6,836	7,247
	Total—Assam ..	92,614	16,726	1,09,340	1,56,912	1,16,699	1,25,878
74	North-West Frontier Province	90,109	9,38,309	10,28,418	8,30,388	6,14,301	4,08,650
	Burma.						
75	Public Works Department					2,264	6,253
76	Police Department ..					1,33,277	1,63,886
77	Jail Department ..	Including under British and Colonial Governments.				6,080	8,241
78	Other Departments ..					1,805	443
	Total—Burma ..	..	..	..	..	1,43,426	1,78,823

Serial No.	Organization.	Purchases made during 1938-39. Textiles and Leather.	Engineering, hardware and miscellaneous stores.	Total for 1938-39.	Total for the year. 1937-38.	1936-37.	1935-36.
	PROVINCIAL—*concld.*						
	Orissa.						
79	Public Works Department	1,872	95,391	97,263	80,321	44,784	*
80	Other Departments ..	23,499	5,596	29,095	5,415	4,434	*
	Total—Orissa ..	25,371	1,00,987	1,26,358	85,736	49,218	*
	Sind.						
81	Public Works Department	12,145	5,30,713	5,42,858	6,67,162	4,44,689	†
82	Other Departments ..	64,495	30,207	94,702	1,25,803	83,933	†
	Total—Sind ..	76,640	5,60,920	6,37,560	7,92,965	5,28,622	†
	Total—Provincial ..	8,70,280	66,06,321	74,76,601	82,09,244	70,41,360	63,51,490
	Indian States.						
83	Jaipur	..	95,906	95,906	1,05,800	2,85,559	64,549
84	Mysore	..	8	8	..	17	..
85	Bahawalpore ..	..	63,364	63,364	1,54,190	70,655	1,11,454
86	Hyderabad ..	..	10,636	10,636	5,033	3,516	3,222
87	Indore	..	2,221	2,221	1,977	..	2,571
88	Gwalior	..	4,299	4,299	4,859	6,473	6,132
89	Patiala	74	59,625	59,699	51,859	25,193	59,223
90	Jodhpur	..	1,28,879	1,28,879	54,452	66,115	79,978
91	Khairpur	5,513	36,321	41,834	62,014	42,181	31,997
92	Jind	5,121	19,769	24,890	10	..	..
93	Sikkim	..	54	54	279	763	..
94	Puddukotai ..	..	468	468	..	..	..
95	Bharatpur	2,047	..	2,047	6,013	328	..

*Included in Bihar. †Included in Bombay.

Serial No.	Organization.	Purchases made during 1938-39. Textiles and Leather.	Engineering, hardware and miscellaneous stores.	Total for 1938-39.	Total for the year 1937-38.	1936-37.	1935-36.
	Indian States—contd.						
96	Nabha	..	11,932	11,932	64,062	..	..
97	Alwar	..	..	..	..	372	..
98	Chatarpur	..	..	..	396	1,243	2,634
99	Darbhanga ..	..	..	..	..	..	351
100	Baroda	..	61	61	..	..	47
101	Cooch Behar ..	..	4,656	4,656	5,129	2,604	1,874
102	Mudhol	..	..	..	..	..	260
103	Tonk	..	779	779	2,093	355	..
104	Mandi	..	7	7	..	15	..
105	Ramdurg	..	..	..	..	124	..
106	Bundi	..	7,955	7,955	2,900	9,530	..
107	Cochin	..	..	..	..	425	..
108	Bhopal	..	46,050	46,050	39,084	4,654	..
109	Udaipur (Mewar) ..	..	2,500	2,500	12,533	..	..
110	Travancore ..	..	230	230	..	50,733	..
111	Tehri Garhwal ..	..	15,219	15,219	3,560	..	..
112	Bhavnagar ..	..	397	397	1,974	..	..
113	Bhagal	..	..	..	606	..	..
114	Kapurthala ..	..	247	247	993	..	..
	Total—Indian States	12,755	5,11,583	5,24,338	5,79,816	5,70,855	3,64,292
	Quasi-Public bodies.						
115	City Board, Mussoorie	..	16,161	16,161	70,256	2,01,173	20,322
116	Municipal Committee, Simla	142	26,251	26,393	31,834	25,683	15,638
117	Municipal Committee, New Delhi ..	318	6,78,229	6,78,547	5,25,964	9,91,862	2,48,485
118	Municipal Corporation, Karachi	..	33,601	33,601	3,48,142	16,018	40,190
119	Municipal Corporation, Madras	..	70,243	70,243	56,136	51,467	32,294
120	Other Municipalities and District Boards	2,282	6,11,296	6,13,578	4,71,446	4,13,021	2,85,394

Serial No.	Organization.	Purchases made during 1938-39. Textiles and Leather.	Engineering, hardware and miscellaneous stores.	Total for 1938-39.	Total for the year 1937-38.	1936-37.	1935-36.
	Quasi-Public bodies—contd.						
121	Port Commissioners ..	6,141	5,25,810	5,31,951	13,01,616	17,926	29,58
122	Joint Water Board, Delhi	989	37,022	38,011	15,701	10,756	29,82
123	Other Local Bodies ..	251	94,704	94,955	1,04,212	7,23,719	13,99
	Total—*Quasi*-Public Bodies	10,123	20,93,317	21,03,440	29,26,287	24,51,625	7,15,722
	British and Colonial Governments.						
	Burma.						
124	Public Works Department	..	378	378	3,370	Included under Provincial Governments.	
125	Police Department ..	93,724	22,319	1,16,043	1,41,249		
126	Jail Department ..	24,177	736	24,913	33,229		
127	Other Departments ..	13,698	6,604	20,302	15,957		
128	Burma Railways ..	..	4,325	4,325	76,803	Included under State Railways.	
	Total—Burma ..	1,31,599	34,362	1,65,961	2,70,608		
129	Royal Airship Base, Karachi	..	3,661	3,661	5,032	2,966	4,596
130	Singapore Straits Settlements ..	5,151	22	5,173	2,388	2,951	3,326
131	Ceylon Government ..	..	3,402	3,402	3,524	3,026	2,603
132	Union of South Africa	..	..	..	..	1,530	..
133	Aden	823	31	854	3,129	..	..
134	His Britannic Majesty's Government.	1,92,50,000	4,437	1,92,54,437	..	..	..
	Total—British and Colonial Governments	1,93,87,573	45,915	1,94,33,488	2,84,681	10,473	10,525
	Abstract.						
	Central—Defence ..	46,49,098	72,94,442	1,19,43,540	1,88,98,218	1,19,51,371	1,03,66,765
	Central—Civil ..	9,36,669	47,43,615	56,80,284	71,84,310	67,18,330	90,74,628
	Railways—State-managed	28,07,555	3,55,44,589	3,83,52,144	3,89,14,155	3,30,46,908	2,78,10,824
	Railways—Company-managed	99,910	7,39,525	8,39,435	7,71,416	28,33,452	6,76,206
	Railways—Managed by Indian States ..	45,483	13,12,662	13,58,145	11,64,251	2,82,160	5,34,414
	Total—Railways ..	29,52,948	3,75,96,776	4,05,49,724	4,08,49,822	3,61,62,520	2,90,21,444
	Provincial Governments	8,70,280	66,06,321	74,76,601	82,09,244	70,41,360	63,51,490
	Indian States ..	12,755	5,11,583	5,24,338	5,79,816	5,70,855	3,64,292
	Quasi-Public Bodies ..	10,123	20,93,317	21,03,440	29,25,287	24,51,625	7,15,722
	British and Colonial Governments ..	1,93,87,573	45,915	1,94,33,488	2,84,681	10,473	10,525
	Grand Total ..	2,88,19,446	5,88,91,969	8,77,11,415	7,89,31,378	6,49,06,534	5,59,04,866

APPENDIX VII.

Statement showing the value of various classes of purchases (indigenous and imported) during 1938-39 and three preceding years. (Vide *paragraphs 2 and 16 of the Report.*)

Class of stores.	1938-39.		1937-38.		1936-37.		1935-36.	
	Total	Per-centage.	Total.	Per-centage.	Total.	Per-centage.	Total.	Per-centage.
I.—TEXTILES AND LEATHER.								
(a) Stores purchased in the Indian market.								
(i) Cotton—								
Indigenous ..	50,17,728	98·97	69,41,137	98·7	53,63,840	98·7	46,75,035	97·5
Imported ..	52,266	1·03	90,657	1·3	71,563	1·3	1,22,528	2·5
(ii) Woollen—								
Indigenous ..	31,13,800	99·44	71,88,881	99·6	41,36,147	99·5	35,13,112	98·7
Imported ..	17,596	·56	29,421	·4	22,686	·5	45,368	1·3
(iii) Jute, hemp, etc.								
Indigenous ..	2,00,01,995	98·45	7,01,243	68·1	9,21,557	74·1	7,92,773	71·4
Imported ..	3,14,663	1·55	3,28,328	31·9	3,22,269	25·9	3,17,399	28·6
(iv) Leather—								
Indigenous ..	2.24,588	78·48	1,75,630	88·7	1,88,225	80·9	1,58,256	79·7
Imported ..	61,596	21·52	22,338	11·3	44,581	19·1	40,419	20·3
Total—Indigenous	2,83,58,111	98·45	1,50,06,891	97·0	1,06,09,769	95·8	91,39,176	94·6
Imported	4,46,121	1·55	4,70,744	3·0	4,61,099	4·2	5,25,714	5·4
Total—Stores purchased in the Indian market.	2,88,04,232	..	1,54,77,635	..	1,10,70,868	..	96,64,890	..
(b) Stores purchased from Government Departments or Depots—Indigenous.								
Cotton ..	851	..	3,619	..	2,439	..	17,933	..
Woollen ..	..	..	1,26,368	..	46,325	..	327	..
Jute, hemp, etc.	5,498	..	1,021	..	642	..	8,239	..
Total ..	6,349	..	1,31,008	..	49,406	..	26,499	..
(c) Stores purchased direct from outside India—Imported.								
Cotton ..	..	..	..	..	..	..	891	..
Woollen ..	8,865	..	2,04,501	..	3,91,855	..	1,69,792	..
Jute, hemp, etc.	..	..	..	..	..	..	60,172	..
Total ..	8,865	..	2,04,501	..	3,91,855	..	2,30,855	..
Total—Indigenous	2,83,64,460	98·42	1,51,37,899	95·73	1,06,59,175	92·6	91,65,675	92·4
Imported	4,54,986	1·58	6,75,245	4·27	8,52,954	7·4	7,56,569	7·6
Total—Textiles and Leather.	2,88,19,446	..	1,58,13,144	..	1,15,12,129	..	99,22,244	..

Class of stores.	1938-39.		1937-38.		1936-37.		1935-36.	
	Total.	Per-centage.	Total.	Per-centage.	Total.	Per-centage.	Total.	Per-centage.
—ENGINEERING ND MISCELLA-EOUS STORES.								
z) Stores purchased in the Indian market ..								
Indigenous ..	2,74,16,677	46·62	2,85,03,950	45·24	5,31,82,769	..	4,59,36,832	..
Imported ..	3,13,88,630	53·38	3,45,01,237	54·76				
) Stores purchased from Government Departments or Depots ..	..	..	365	..	510	..	10,982	..
:) Stores purchased direct from outside India ..	86,662	..	1,12,682	..	2,11,126	..	34,808	..
otal—Indigenous	2,74,16,677	46·55	2,85,04,315	45·16	5,33,94,405	..	4,59,82,622	..
Imported	3,14,75,292	53·45	3,46,13,919	54·84				
otal—Engineering and Miscellaneous Stores ..	5,88,91,969	..	6,31,18,234	..	5,33,94,405	..	4,59,82,622	..
RAND TOTAL ..	8,77,11,415	..	7,89,31,378	..	6,49,06,534	..	5,59,04,866	..

APPENDIX VIII.

Value in rupees of stores purchased in each province during the year 1938-39, and three preceding years. (Vide *paragraphs 2, 16 and 28 of the Report.*)

Class of material and province in which purchased.	1938-39.	1937-38.	1936-37.	1935-36.
	Rs.	Rs.	Rs.	Rs.
Cotton Materials.				
United Provinces	17,39,196	28,36,883	19,94,050	17,54,824
Bombay	14,14,504	15,93,963	13,94,925	13,28,664
Bengal	8,48,871	7,72,958	7,55,368	5,51,590
Madras	7,93,932	11,32,729	8,79,618	7,71,755
Punjab	1,22,805	2,17,342	1,13,610	1,38,022
Central Provinces	90,630	1,45,458	94,733	1,92,665
Delhi	31,891	1,69,564	41,678	60,043
Indore	23,128	1,40,737	1,37,857	..
Sind	3,385	21,673	15,253	*
Bihar	1,265	..	..	..
N. W. F. P.	387	487	8,311	..
Total—Cotton Materials ..	50,69,994	70,31,794	54,35,403	47,97,563
Woollen Materials.				
Punjab	10,61,782	20,93,083	9,86,829	7,77,992
Bombay	7,83,032	5,68,277	3,01,737	5,21,886
United Provinces..	7,80,030	26,10,791	16,39,819	15,90,044
Bengal	3,24,631	2,13,518	2,16,559	83,870
Mysore	1,40,943	..	1,097	..
Delhi	29,247	16,364	16,761	22,690
Jaipur	8,482	18,694	273	3,605
Sind	2,051	4,866	2,261	*
Madras	1,198	16,88,700	9,92,669	5,57,615
Kashmir	..	3,784	828	778
Central Provinces	..	225	..	..
Total—Woollen Materials ..	31,31,396	72,18,302	41,58,833	35,58,480

*Included in Bombay.

Class of material and province in which purchased.	1938-39.	1937-38.	1936-37.	1935-36.
	Rs.	Rs.	Rs.	Rs.
Jute, Hemp and Flax Materials.				
Bengal	2,00,92,108	7,84,790	10,91,340	9,55,059
Bombay	1,54,979	1,14,958	60,216	94,884
Delhi	25,265	12,652	11,791	6,006
Sind	24,555	33,598	17,983	*
Madras	7,617	15,172	10,677	2,395
United Provinces..	6,166	27,441	43,146	3,982
Punjab	5,531	39,830	8,104	47,731
Kashmir	437	451	569	115
Central Provinces	..	679	..	..
Total—Jute, Hemp and Flax Materials.	2,03,16,658	10,29,571	12,43,826	11,10,172
Leather Materials.				
United Provinces..	1,37,372	92,583	88,399	94,283
Punjab	55,497	33,634	35,751	31,464
Bengal	52,034	56,587	65,363	46,572
Bombay	21,324	14,472	35,857	25,546
Sind	11,389	91	751	*
Madras	5,347	22	6,685	2,810
Delhi	3,221	558	..	..
Gwalior	..	21	..	..
Total—Leather goods ..	2,86,184	1,97,968	2,32,806	1,98,675

*Included in Bombay.

Class of material and province in which purchased.	1938-39.	1937-38.	1936-37.	1935-36.
Engineering, Hardware and Miscellaneous stores.	Rs.	Rs.	Rs.	Rs.
Bengal	3,52,59,616	3,80,68,332	3,16,05,052	2,40,29,630
Bombay	96,94,840	98,50,511	97,06,670	96,79,302
Bihar	48,35,656	59,01,953	24,12,177	38,99,546
Punjab	27,64,501	23,17,103	18,58,230	23,73,452
Sind	24,80,411	27,37,666	16,51,766	*
United Provinces..	11,98,809	10,32,264	5,14,825	5,97,762
Delhi	6,34,412	9,39,173	11,85,375	6,26,772
Central Provinces	5,99,736	7,76,884	6,15,809	7,82,780
Madras	4,66,499	4,67,706	7,88,919	6,13,838
Bundi	2,38,616	3,52,500	2,59,996	2,98,491
Hyderabad	2,10,455	1,64,779	52,865	1,09,726
Mysore	1,23,359	77,695	2,36,166	2,83,443
Baluchistan	1,08,711	8,153	..	3,400
Assam	56,694	24,516	11,130	1,43,484
Baroda	39,395	43,756	38,693	49,901
Travancore	30,485	..	..	..
Gwalior	22,142	1,28,831	41,647	78,059
Cochin	16,546	15,343	6,428	1,415
Oudh	15,540	6,482	7,112	9,499
Porbunder	4,803	34,200	22,496	22,025
Bhavnagar	2,576	2,396	152	..
Ajmer-Merwara	1,335	54,037	..	..
N. W. F. P.	170	792	258	1,032
Jaipur	..	115	..	..
Burma	†	†	21,67,003	23,33,008
Andamans	..	..	..	125
Indore	..	..	..	142
Total—Engineering, Hardware and Miscellaneous stores.	5,88,05,307	6,30,05,187	5,31,82,769	4,59,36,832

*Included in Bombay. †Included under Stores purchased direct from abroad.

Class of material and province in which purchased.	1938-39.	1937-38.	1936-37.	1935-36.
Total.	Rs.	Rs.	Rs.	Rs.
Bengal	5,65,77,260	3,98,96,185	3,37,33,682	2,56,66,721
Bombay	1,20,68,679	1,21,42,181	1,14,99,405	1,16,48,282
Bihar	48,36,921	59,01,953	24,12,177	38,99,546
Punjab	40,10,116	47,00,992	30,02,524	33,68,661
United Provinces..	38,61,573	65,99,962	42,80,239	40,40,895
Sind	25,21,791	27,97,894	16,88,014	Included in Bombay.
Madras	12,74,593	33,04,329	26,78,568	19,48,413
Delhi	7,24,036	11,38,311	12,55,605	7,15,511
Central Provinces	6,90,366	9,23,246	7,10,542	9,75,445
Bundi	2,38,616	3,52,500	2,59,996	2,98,491
Hyderabad	2,10,455	1,64,779	52,865	1,09,726
Mysore	2,64,302	77,695	2,37,263	2,83,443
Baluchistan	1,08,711	8,153	..	3,400
Assam	56,694	24,516	11,130	1,43,484
Baroda	39,395	43,756	38,693	49,901
Travancore	30,485	..	..	..
Indore	23,128	1,40,737	1,37,857	142
Gwalior	22,142	1,28,852	41,647	78,059
Cochin	16,546	15,343	6,428	1,415
Aundh	15,540	6,482	7,112	9,499
Jaipur	8,482	18,809	273	3,605
Porbunder	4,803	34,200	22,496	22,025
Bhavnagar	2,576	2,396	152	..
Ajmer Merwara	1,335	54,037	..	..
N. W. F. P.	557	1,279	8,569	1,032
Kashmir	437	4,235	1,397	893
Burma	Included in stores purchased direct from abroad.		21,67,003	23,33,008
Andamans	..	..	..	125
Total—Stores purchased in the Indian market.	8,76,09,539	7,84,82,822	6,42,53,637	5,56,01,722
Total—Stores purchased from Government Departments or Depots (*vide* Appendix VII).	6,349	1,31,373	49,916	37,481
Total—Stores purchased direct from abroad (*vide* Appendix VII).	95,527	3,17,183	6,02,981	2,65,663
Grand Total ..	8,77,11,415	7,89,31,378	6,49,06,534	5,59,04,866

APPENDIX IX.

Lists of of Stores on "Rate" and "Running" contracts.

(*Vide* paragraphs 2 and 29 of the Report.)

A.—Items of stores for which "Rate" and "Running" contracts were entered into by the Headquarters office during the year 1938-39.

COTTON.

1. Bags, Postal.
2. Bandage cloth.
3. Bunting cloth, red and green.
4. Capes, waterproof.
5. Cloth, jaconet.
6. Cloth, domestic.
7. Cloth, sheeting.
8. Cloth, table.
9. Coats, waterproof.
10. Cotton waste, coloured.
11. Cotton waste, white, teased and unteased.
12. Dosuti.
13. Drill, blue, grey, khaki and white.
14. Durries.
15. Dusters.
16. Flags, bunting, red and green.
17. Gauze absorbent, cotton, white.
18. Haversacks, khaki.
19. Holland cloth.
20. Hoods for capes, waterproof.
21. Lining cloth.
22. Lint.
23. Long cloth, bleached, grey.
24. Mosquito cloth.
25. Pugri cloth, khaki, red, blue, and grey.
26. Pugri cloth, white.
27. Putties, cotton.
28. Sheets, bed, bleached.
29. Tapes and newar.
30. Thread, sewing.
31. Towels, hand.
32. Turbans, cotton, red and blue.
33. Twill, cotton, khaki.
34. Twine.
35. Umbrellas.
36. Wool cotton, absorbent.

WOOLLEN.

37. Blankets.
38. Broad cloth, superfine.
39. Carpets.
40. Cloth drab mixture.

WOOLLEN—*contd.*

41. Flannels.
42. Jackets, cardigan, etc.
43. Jerseys.
44. Putties.
45. Serges.
46. Socks, worsted.
47. Twill cloth, of colours.
48. Wool sheep stuffing.
49. Yarn, worsted.

JUTE, HEMP AND MISCELLANEOUS.

50. Bags, mail, postal.
51. Buttons, gold.
52. Canvas.
53. Coir yarn and matting.
54. Cordage, manilla.
55. Imitation leather cloth.
56. Lace, gold.
57. Linoleum.
58. Neck gear, gold.
59. Paulins, flax, jute.
60. Ropes, manilla.
61. Tassels, gold.
62. Uniforms, made up, including supply of all garments.

LEATHER.

63. Belts, waist.
64. Hides, buffalo.
65. Portfolios, bags, etc., for postal use.
66. Shoes, etc.

ENGINEERING AND MISCELLANEOUS STORES.

67. Abrasive materials.
68. Angulars, tin.
69. Antimony.
70. Badges, brass.
71. Ballons, rubber.
72. Bearings, ball and roller.
73. Belting, train lighting.
74. Belt fastners.
75. Bicycles.
76. Boards, building and insulating.
77. Boards, notice, painted.
78. Boards, sign, enamelled iron.
79. Boards, tin, paper covered.

ENGINEERING AND MISCELLANEOUS STORES—*contd.*

80. Bolts, nuts, rivets and washers.
81. Bolts, and nuts, mushroom head.
82. Bolts fish, crossing and fang.
83. Boxes and trays, tin.
84. Boxes for insurance seals.
85. Brushes, bannister.
86. Brushes for cleaning stamps.
87. Bugles.
88. Buttons, gilt and brass.
89. Buttons, G. R. I.
90. Cables, V. I. R. braided and compounded.
91. Cables, V. I. R. insulated tough rubber sheathed.
92. Cables, V. I. R. insulated lead alloy sheathed.
93. Cables, flame proof.
94. Cables, locomotive headlight.
95. Candles, wax.
96. Carbons, for A. D. wet cells.
97. Ceiling roses, bakelite and porcelain.
98. Cells, caustic, soda.
99. Cells, inert and dry.
00. Cells, train lighting.
01. Cement, ordinary and rapid hardening.
02. Cement for construction of concrete roads.
03. Chairs, M. S. slide.
04. Charpoys, iron pipe.
05. Chests, cash iron.
06. Chimneys.
7. Conduit pipes and fittings.
8. Connectors, porcelain.
9. Cooking ranges and spare parts.
0. Cords, flexible, V. I. R.
1. Couplers, intervehicle.
2. Cotters and pins, split.
3. Crucibles.
4. Cutlery.
5. Discs, brass.
6. Dust shields.
7. Dynamos, trainlighting.
8. Electrodes.
9. Electrolyte.
0. Elements for A. D. wet cells.
1. Fans, electric, ceiling, A. C. and D. C.
2. Fans, electric, table, A. C. and D. C.
3. Feed pipes, I. R. and canvas.
4. Fire bricks.
5. Fire clay.
6. Fire extinguishers and refills.
7. Fittings, carriage body, rubber.
8. Fittings, carriage body, metallic.

ENGINEERING AND MISCELLANEOUS STORES—*contd.*

129. Fittings, vacuum brake, rubber and metallic.
130. Gibs, M.S.
131. Glass sheets and plates.
132. Glasses, looking.
133. Grinding wheels.
134. Handcuffs.
135. Headlight equipment and accessories.
136. Heaters, electric.
137. Hinges, butt.
138. Horn check sections.
139. Hose, boiler washout, I. R. and canvas.
140. Hose, delivery, leather, copper rivetted.
141. Hose, delivery, I. R. armoured.
142. Hose, delivery, I. R. and canvas unarmoured.
143. Hose, fire, canvas.
144. Hose, I. R. and canvas.
145. Hose, I. R. and canvas, flexible.
146. Hose, pneumatic, double braided.
147. Instruments, testing and measuring.
148. Insulating materials.
    - (*a*) Cotton tape, Egyptian.
    - (*b*) India rubber strip, pure para.
    - (*c*) Tape, cotton, webbing.
    - (*d*) Tape, yellow, Empire " Biascut ".
    - (*e*) Tape, adhesive, black.
    - (*f*) Tapes and sheets, micanite.
    - (*g*) Varnish, insulating, air drying and stoving.
    - (*h*) Compounds for cable sealing boxes.
    - (*i*) Enamel, insulating.
    - (*j*) Tape, asbestos.
149. Jaws, loose, spring steel.
150. Jointings, compressed asbestos fibre.
151. Keys, mild steel.
152. Lamp holders.
153. Lamp locks, brass.
154. Lamps, electric.
155. Lanterns, hurricane.
156. Lanterns and common lamps, tin, of sorts.
157. Leather reviver.
158. Letter boxes.
159. Locks.
160. Metal polish liquid.
161. Meters, electric.
162. Meters, water.

ENGINEERING AND MISCELLANEOUS STORES—*contd.*

163. Motor vehicles and spare parts :—
   (*a*) Chevrolet vehicles and spare parts.
   (*b*) Ford motor vehicles and spare parts.
   (*c*) Spare parts for Morris cars, Wolseley cars and Morris commercial vehicles.
   (*d*) Spare parts for Albion 6 wheeled 3 ton model I. O. 32.
   (*e*) Spare parts for Albion 30 cwts. model I. O. 41 chassis.
   (*f*) Spare parts for Thornycroft 'A 5' medium 6 wheeled lorries.
   (*g*) Spare parts for Morris commercial 6 wheeled tractors and CD Morris commercial normal control chassis and Morris commercial CDS type chassis.
   (*h*) Spare parts for commercial vehicles.
   (*i*) Spare parts for Morris 15 cwt. CS8T (III) 4 wheeled trucks and Morris commercial 8 cwt. P. U. Mark II 25 H. P. 4 wheeled trucks.
164. Packing, cam shaft gland, hydraulic, asbestos, yarn, rope sheets, steam etc.
165. Paper files, brass.
166. Pig iron.
167. Pincers.
168. Pipes and specials, C. I.
169. Pipes, hume.
170. Pipes, M. S. and W. I.
171. Pipes, stoneware.
172. Plates, enamel.
173. Plates, M. S.
174. Plates, tin.
175. Point rodding, tubular.
176. Poles, Steel, tubular.
177. Punice, rubbing blocks, stone and powder.
178. Road danger signs, enamelled iron.
179. Road dressing materials.
180. Roofing materials.
181. Sac elements.
182. Safes, steel, burglar, and fire-proof.
183. Scales and weights.
184. Screws, wood.
185. Seals, lead.
186. Separators, wooden.
187. Shades—
   (*i*) Enamelled iron.
   (*ii*) White opal, conic and lengham.
   (*iii*) Vellum for table standards.

ENGINEERING AND MISCELLANEOUS STORES—*concld.*

188. Sheets, asbestos cement and accessories.
189. Sheets, M. S.
190. Sheets, M. S. galvanized.
191. Sheets, zinc.
192. Shellac.
193. Signals, fog.
194. Sluice valves.
195. Signalling and interlocking materials.
196. Soap, hard and soft.
197. Soda, ash and soda caustic.
198. Spearhead, brass.
199. Speed recording charts for electric locomotives.
200. Spikes, dog and round.
201. Spirit, methylated, denatured.
202. Springs, I. R.
203. Springs, I. R. auxiliary bearing, bolster and drawbar.
204. Springs, I. R. buffer.
205. Stamp damper.
206. Standards, table, electric, bakelite.
207. Steel, special "Kaset".
208. Steel sections.
209. Steel, spring.
210. Steel, tool.
211. Superheater elements.
212. Switches, tumbler, single pole.
213. Switches, tumbler, single pole, surface and sunk type.
214. Switches with fuses, ironclad, double pole.
215. Switches, tumbler, with fuses, train-lighting.
216. Tools, hand and small.
217. Tools, track.
218. Trolley wheels and axles.
219. Tyres and tubes, rubber.
220. Valves.
221. Wall plugs and sockets, bakelite.
222. Wall plugs and sockets, ironclad.
223. Wire, copper, bare, solid, hard drawn.
224. Wire, copper, cadmium.
225. Wire, copper, single and double cotton covered and double silk covered.
226. Wire, steel, solid, galvanized.
227. Wire, steel, mild, galvanized.
228. Zincs, circular for Leclanche cells.
229. Zincs, cylindrical cut away pattern for Leclanche cells.

OILS, PAINTS AND CHEMICALS.

230. Acids, hydrochloric, nitric and sulphuric.
231. Alumina ferric.

OILS, PAINTS AND CHEMICALS—*contd.*

232. Ammonium chloride.
233. Bituminous solutions.
234. Carbide of calcium.
235. Chloride of lime or bleaching powder.
236. Compound, metal cleaning.
237. Creosote.
238. Disinfectants.
239. Gas, acetylene, dissolved.
240. Gas, nitrous oxide.
241. Gas, Oxygen.
242. Graphite.
243. Greases.
244. Liquid Chlorine.
245. Liquid driers.
246. Oil, castor.
247. Oil, cleaning.
248. Oil, cocoanut.
249. Oil, diesel, fuel.
250. Oil, furnace, fuel.
251. Oil, gas making.
252. Oil, kerosene.
253. Oil, linseed.
254. Oil, lubricating.
255. Oil, stand.
256. Paints, enamels, varnishes, dry pigments etc.
257. Paints, battleship, grey, readymixed, dark and light.
258. Paint remover.
259. Petrol.
260. Rosin.
261. Sulphate of alumina.
262. Sulphate of copper.
263. Tarcrude.
264. Turpentine, genuine and white spirit.

B.—Contracts entered into by the Controller of Purchase, Calcutta.

TEXTILES AND LEATHER STORES.

1. Bags, canvas, jute.
2. Bags, canvas for linemen.
3. Bags, gunny.
4. Bags, gunny, heavy.
5. Bags, gunny, Liverpool twill.
6 Buttons, aluminium.
7. Butts, leather, tanned.
8. Canvas, jute, country.
9. Canvas, jute, white.
10. Caps, black.

TEXTILES AND LEATHER STORES—*contd.*

11. Caps, black cherry top.
12. Caps, black, forage.
13. Caps, blue cloth with leather drooping peaks.
14. Caps, velvet, black.
15. Cloth, dosuti.
16. Cloth, gauge.
17. Cloth, hessian.
18. Cloth for map mounting.
19. Cloth, long.
20. Cloth, madapalam.
21. Cloth, nainsook.
22. Cloth, saloo.
23. Cloth, selvyt.
24. Cord, whip.
25. Cotton waste, white.
26. Cotton wool, absorbent.
27. Flags, banners.
28. Hats, sola, khaki.
29. Helmets, cork, drill.
30. Hides, tanned, buffalo.
31. Hides, tanned, buffalo, country.
32. Hides, tanned, butt.
33. Hides, tanned, cow.
34. Hides, tanned, cow, country.
35. Hides, tanned, cow, full.
36. Jute combings.
37. Jute gasketting.
38. Kit bags, flax, canvas.
39. Leather, for washers.
40. Line log.
41. Mattresses, coir.
42. Nets, mosquito.
43. Paulins, flax.
44. Pouches, leather.
45. Rope, jute.
46. Rope, manilla.
47. Rope, halyards.
48. Tape, cotton, for sealing wagons.
49. Thread, cotton, wicks.
50. Thread, hessian, waste.
51. Thread sewing, linen.
52. Twine, flax.
53. Twine, jute.
54. Twine, hemp.
55. Twine, sailmakers.
56. Umbrellas.
57. Wicks, tape, castor.
58. Wicks, tape, kerosene.
59. Yarn, cotton grey.

ENGINEERING AND MISCELLANEOUS STORES.

60. Acid, sulphuric, hydrochloric, nitric.
61. Almirah, steel.
62. Angles, M. S.
63. Apparatus, chemical.
64. Axes, felling.
65. Bars, high speed steel.
66. Beakers.
67. Beaters, wooden.
68. Belting, leather.
69. Bill hooks.
70. Bolts and nuts, M. S.
71. Bottles, Water.
72. Brooms, cocoanut.
73. Brushes, bannister.
74. Brushes, paint.
75. Brushes, sashtool.
76. Brushes, varnish.
77. Brushes, wire, for cleaning batteries.
78. Buckets, fire.
79. Cardboard, corrugated.
80. Cement, plastic, Genasco.
81. Cement, Rohtas.
82. Chemicals.
83. Cleaner concentrated.
84. Clocks.
85. Compound plastic, Boudex.
86. Conductor, copper, tinned.
87. Crockery.
88. Cupboards, steel shelving.
89. Cutlery.
90. Cutters pick.
91. Cutters pickaxe.
92. Degchies, aluminium.
93. Drill bits.
94. Dublin, black.
95. Electrodes.
96. Emery cloth.
97. Expanded metal.
98. Files, of sorts.
99. Fittings, lamps, electric.
100. Fittings, lavatory.
101. Fittings, headlight.
102. Fittings, train lighting.
103. Fittings, water.
104. Flasks.
105. Flats, M. S.
106. Flour, fine.
107. Flit.
108. Fuses, aerial.
109. Gas, nitrous oxide.

ENGINEERING AND MISCELLANEOUS STORES—*contd.*

110. Glass paper.
111. Glasses port.
112. Glass resistance (Pyrex).
113. Grease, A. P. C.
114. Hammers, axes felling.
115. Hammers, hand.
116. Handles, hammer.
117. Handles, wood.
118. Hexagon, bright M. S.
119. Hose, canvas.
120. Hose, washout.
121. Hydrometers.
122. Jars, stone ware.
123. Lead sleeves.
124. Leakstop, Pabco.
125. Link clips, of sizes.
126. Nails, of sorts.
127. Nails, wire.
128. Oil, chloridol.
129. Oil, soluble.
130. Packing, asbestos, graphited square.
131. Packing, steam, square.
132. Paint remover.
133. Paint, olive, green.
134. Paint, white, thick.
135. Paper, sleeves.
136. Phowrahs.
137. Pick axes.
138. Pig iron.
139. Pigment dry, golden brown.
140. Plastic compound.
141. Plates, M. S.
142. Pliers, cutting.
143. Plugs, Rawl, drill bits.
144. Polish, brown, Cobra.
145. Polish, Black, Cherry Blossom.
146. Rectifier—Tunger.
147. Rivets, M. S.
148. Rods, M. S.
149. Rope, wire, ungalvanised.
150. Rounds, M. S.
151. Screw driver.
152. Screws, wood, iron and brass.
153. Seals and steel strapping.
154. Shade, enamelled iron.
155. Sheets, asbestos.
156. Sheets, M. S.
157. Soap, carbolic.
158. Soap, course.
159. Soap, monkey brand.

ENGINEERING AND MISCELLANEOUS STORES—*concld.*

160. Soap, Sunlight.
161. Soap, toilet.
162. Soda, ash light.
163. Solder resin core.
164. Spirit, rectified.
165. Spoons, of sorts.
166. Staples, fibre threaded.
167. Steel holders.
168. Test tubes.
169. Tin plates.
170. Tin seal holders.
171. Tumblers.
172. Utensils, aluminium.
173. Washers, M. S., black.
174. Watches.
175. Whiting.
176. Wire, M. S.
177. Wire, silicon, bronze.
178. Wrenches, sliding.
179. Wood plug.

C.—Contracts entered into by the Cotroller of Purchase, Bombay.

TEXTILES AND LEATHER STORES.

1. Bags, brown, leather laces.
2. Bags, gunny.
3. Bellows, leather.
4. Canvas, green.
5. Cloth, long.
6. Cord, seaming.
7. Flags, red.
8. Hides, country, leather.
9. Hides, country, leather tanned.
10. Hides, hydraulic, leather.
11. Hides, ordinary, tanned.
12. Skins, goat.
13. Suits, blue serge.
14. Suits, drill.
15. Thongs, leather.
16. Thread, sewing, cotton, black.
17. Thread, sewing, flax, black.
18. Twill.
19. Twine, sewing.

TEXTILES AND LEATHER STORES—*contd.*

20. Twist, cotton.
21. Wicks, tape, cotton.

ENGINEERING AND MISCELLANEOUS STORES.

22. Belt, rubber.
23. Bicycles.
24. Blades for fixing screws for carriage fans.
25. Bolts, copper clamps.
26. Bolts, stainless steel.
27. Brushes, spoke.
28. Brushes, varnish.
29. Buckets, G. I.
30. Clamps, slipring clips.
31. Claws, wire.
32. Clocks.
33. Cocks, bib, plug.
34. Cocks, locking and stop, brass.
35. Cocks, stop plug, brass.
36. Cocks, stop, brass, screwed.
37. Cocks, " waste not ".
38. Cooking ranges.
39. Cords for use with control head set.
40. Cords, telephone.
41. Diaphragms, carbon.
42. Fasteners, belt.
43. Fittings, berth light.
44. Fittings, ceiling, M. S.
45. Fuse plugs.
46. Gas, carbonic acid.
47. Globes, glass.
48. Jars, stone, brown.
49. Lamp holders.
50. Pans, iron.
51. Regulators, with fans.
52. Rings, I. R.
53. Shades, glass.
54. Sheets, I. R.
55. Sleeves, insulating.
56. Soda washing, crystal.
57. Stay tubes, iron, oxidised.
58. Timepieces.
59. Valves, self closing.
60. Valves, wheel gun metal.
61. Washers, lock, copper.

D.—Contracts entered into by the Controller of Purchase, Karachi.

1. Bicycles, Hercules.
2. Blades, hacksaw.
3. Bolts and nuts, M. S.
4. Brushes, paint.
5. Brushes, scrubbing.
6. Brushes, sweeping.
7. Clocks.
8. Crockery.
9. Cutlery.
10. Emery cloth.
11. Files, cast steel.
12. Fittings, door.
13. Flit.
14. Handles.
15. Oils, lubricating.
16. Panes, glass.
17. Pickaxes.
18. Rivets, M. S.
19. Sand paper.
20. Screws wood, iron and brass.
21. Shovels.
22. Solignum.
23. Timepieces.
24. Tumblers, glass.
25. Water fittings.

APPENDIX X.

List of specifications framed by the Indian Stores Department current at the end of the year 1938-39.
(*Vide* paragraphs 3 and 35 of the Report.)

INDEX.

Section No.	Name of stores. Main head.	Sub-head.	Classification reference.
1	Bridgework	..	A.
2	Engineer's plant (excluding petty tools).	..	B.
3	Workshop machinery and heavy tools.	..	C.
4	Ballast and permanent way materials.	..	D.
5	Rolling stock	..	E.
6	Station materials and fencing.	..	F.
7	General	..	G.
		(*i*) Building materials ..	G/Buildings.
		(*ii*) Chemicals	G/Chemicals.
		(*iii*) Fuel	G/Fuel.
		(*iv*) Furniture	G/Furniture.
		(*v*) Drawing, mathematical and surveying instruments.	G/Instruments.
		(*vi*) Lamps and lamp fittings	G/Lamps.
		(*vii*) Leather and India rubber goods.	G/Leather.
		(*viii*) Metals	G/Metals.
		(*ix*) Miscellaneous ..	G/Miscellaneous.
		(*x*) Oils and Lubricants ..	G/O.
		(*xi*) Paints and Painter's material.	G/P.
		(*xii*) Printing presses and material.	G/Prints.
		(*xiii*) Sanitary Stores ..	G/Sanitary.
		(*xiv*) Stationery.. ..	G/Stationery.
		(*xv*) Cloth, Clothing and equipment.	G/Textiles.
		(*xvi*) Timber	G/Timber.
		(*xvii*) Tools	G/Tools.
		(*xviii*) Hardware, copper, tin and zinc ware.	G/Ware.
		(*xix*) Waterworks stores ..	G/W. W.
8	Electrical plant and materials.	..	H.
9	Power and industrial plant	..	P.I.

List of I. S. D. General Specifications current at the end of the year 1938-39.

Specification No.	Description.	Remarks.
	BRIDGEWORK—A.	
‡‡A-33N	Steel structures (other than bridge girders) ..	Saleable.
‡A-34D	Steel sheet piling.	
A-35K	(Cancelled).	
A-40D	(Cancelled)	
‡A-48E	Tank and staging (Corr. No. 1 of March 1937 and Corr. No. 2 of February 1939).	Saleable.
‡A49A	Tanks steel, welded, with staging, welded or riveted (Corr. No. 1 of February 1939).	„
	ENGINEERS PLANT (EXCLUDING PETTY TOOLS)—B.	
B-45B	Vertical boilers	Saleable.
B-50D	Boilers, loco multitubular	„
B-53B	Hand operated, overhead, traversing and travelling crane.	„
	WORKSHOP MACHINERY AND HEAVY TOOLS—C.	
C-29B	Machine tools	Saleable.
	BALLAST AND PERMANENT WAY MATERIALS—D.	
D-1D	Light railway track for construction work (Not for passenger traffic).	Saleable.
D-2C	Tip trucks for 1′-6″, 2′-0″ and 2′-6″ gauge railway contractors type.	
D-6	(Cancelled).	
D-15	(Cancelled).	
D-16A	(Cancelled).	
D-17A	(Cancelled).	
D-18A	Steel screw spikes	Saleable.

Specification No.		Description.	Remarks.
		ROLLING STOCK—E.	
E-28	.. ..	Weighbridges.	
E-29A	.. ..	Engine turntables.	
E-32	.. ..	(Cancelled).	
E-37B	.. ..	(Cancelled).	
E-38	.. ..	(Cancelled).	
E-42D	.. ..	Rivets or rivet bars, mild steel.	
E-47B	.. ..	(Cancelled).	
E-48	.. ..	(Cancelled).	
E-49A	.. ..	(Cancelled).	
E-50B	.. ..	(Cancelled).	
E-53	.. ..	(Cancelled).	
E-54	.. ..	(Cancelled).	
E-55	.. ..	(Cancelled).	
		CHEMICALS—G.	
G/Chemicals-	9C ..	Nitric acid, commercial	Saleable.
,,	11B ..	Hydrochloric (or muriatic) acid commercial (Suitable for flux).	,,
,,	12B ..	Hydrochloric acid, pure	,,
,,	14B ..	Sulphuric acid, concentrated, for accumulators	,,
,,	15A ..	Sulphuric acid, commercial quality	,,
,,	16A ..	Alumino ferric	,,
,,	17A ..	Sulphate of alumina	,,
,,	18C ..	Copper sulphate	,,
,,	19A ..	Potassium cyanide for surface hardening of tools	,,
,,	20B ..	Acetylene gas (dissolved) for industrial purposes.	
,,	22A ..	Chloride of lime or bleaching powder ..	Saleable.

Specification No.		Description.	Remarks.
		CHEMICALS—G.—*contd.*	
G/Chemicals- 23A	..	Calcium carbide for acetylene gas production ..	Saleable.
‡ „ 24D	..	Salammoniac (ammonium chloride) (Corr. No. 1 of March 1939).	„
„ 25A	..	Gas carbonic acid (carbon dioxide).	
„ 26B	..	Caustic soda, commercial	Saleable.
„ 27	..	Borax for brazing	„
„ 28	..	Soda ash	„
„ 29A	..	Alum (potash) commercial	„
„ 31	..	Sodium cyanide for surface hardening of tools	„
„ 32	..	Stable bleaching powder or chloride of lime (Corr. No. 1 of February 1937).	„
* „ 33	..	Oxygen gas, compressed	„
		LAMPS AND LAMP FITTINGS—G.	
G/Lamps-25	..	Hurricane lanterns, storm and weather-proof ..	Saleable.
		LEATHER AND INDIA RUBBER GOODS—G.	
G/Leather-43A	..	Leather, buffalo and cow and sheep skin ..	Saleable.
„ 48-B	..	(Cancelled).	
„ 56C	..	Boots, ammunition for Police constables ..	Saleable.
‡ „ 61B	..	Skin wash or chamois leather.	
„ 64A	..	Upholstery hides	Saleable.
		METALS—G.	
G/Metals-9	..	(Cancelled).	
„ 16E	..	Mild steel rods for ferro-concrete work ..	Saleable.
„ 17A	..	(Cancelled).	
„ 40B	..	Tin plates	Saleable.
„ 41H	..	Galvanized mild steel sheet and ridging (plain and corrugated).	„

Specification No.	Description.	Remarks.
	METALS—G.—*contd.*	
G/Metals-45B ..	Lead sheet	Saleable.
" 46B ..	Pig lead	"
" 48B ..	Pig iron	"
" 52 ..	Copper alloys for carriage and wagon axle-box brasses.	
" 53B ..	Soft solders.	
" 54B ..	Tins sticks (for tinning cooking vessels and similar purposes).	Saleable.
" 55A ..	Tin ingots (ordinary and refined)	"
" 56A ..	(Cancelled).	
" 57A ..	(Cancelled).	
" 58B ..	Copper sheets, annealed, half hard or hard rolled	Saleable.
" 59A ..	Brass sheets, annealed, for spinning or cold working and die pressing.	
" 60 ..	(Cancelled).	
" 67 ..	(Cancelled).	
" 68 ..	(Cancelled).	
" 69 ..	(Cancelled).	
" 70 ..	(Cancelled).	
" 71A ..	(Cancelled).	
" 72A ..	M. S. sheet for the Telegraph Department ..	Saleable.
" 75 ..	Zinc (or spelter)	"
	MISCELLANEOUS—G.	
‡G/Misc. IF ..	Padlocks and locks, box, drawer etc. (Corr. No. 1 of Novr. 38).	Saleable.
" 15A ..	Safes, burglar resisting, non-fire resisting.	
" 25A ..	Buttons, hollow, and badges, brass, gilding metal, nickel silver, German silver, white metal, silver and 'bronzed.'	Saleable.

Specification.		Description.	Remarks.
		MISCELLANEOUS—G.—*contd.*	
G/Misc.- 30B	..	Fire extinguishers, chemical operated soda acid or foam types.	Saleable.
" 32D	..	Seals, lead, circular type for general purposes ..	"
" 35B	..	Liquid metal polish (Corr. No. 1 of July 1935).	"
" 36B	..	Lead wool or yarn for caulking	"
" 37C	..	(Cancelled).	
" 38A	..	Fire bricks.	
" 39	..	Fire clay.	
" 40A	..	Candles, wax, long	Saleable.
" 41A	..	Candles, wax, carriage	"
" 51A	..	Vitreous enamelled sheet steel gauges and numeral plates.	"
" 52		Feeders, oil, spring (one pint and half pint capacity).	
" 57B	..	Unlined flax canvas fire hose	Saleable.
" 58B	..	Unlined flax canvas, water delivery hose, for ordinary purposes.	"
" 59A	..	Unlined flax canvas hose, water column ..	"
" 61	..	Plaster of Paris	"
" 62A	..	Rosin	"
" 64B	..	Glass, plate and sheet	"
" 66B	..	Road signs and standards (Corr. No. 1 of Septr. 1936 and Corr. No. 2 of July 1937).	"
" 68	..	Boiler washout hose for use on Railways ..	"
" 69	..	Hose, India rubber, compressed air delivery.	
" 70	..	Hose, India rubber, delivery, cold water for ordinary purpose.	

Specification No.	Description.	Remarks.
	MISCELLANEOUS—G.—*contd.*	
G/Misc.- 72 ..	Tar, coal (for road purposes)	Saleable.
,, 73C ..	Weighing machines, platform	,,
,, 74A ..	Paraffin wax for insulating purposes	,,
,, 75 ..	Beeswax	,,
,, 76 ..	Mastic	,,
,, 77 ..	Joiners glue	,,
,, 78A ..	Black and galvanized, M. S. square or hexagonal head coach screws with gimlet points (Cor. No. 1 of March 1938).	,,
,, 79 ..	Hand operated bellows	,,
,, 80	(Cancelled).	
,, 81 ..	(Cancelled).	
,, 82 ..	(Cancelled).	
,, 84 ..	Handcuffs with female keys (adjustable, non-adjustable and flexible types).	
,, 85 ..	Buttons, solid, white metal for Indian State Railways.	Saleable.
,, 86 ..	Bolts, nuts, studs and washers, black and galvanised (Corrigendum No. 1 of February 1938 and Corr. No. 2 of September 1938).	,,
,, 88 ..	Steel cylinders, for the storage and transport of compressed gases.	,,
	OILS AND LUBRICANTS.	
O. 91A	Castor oil special quality.	
O. 101/1 to 101/86 ..	Oils and Lubricants. (Corrigendum No. 1 of August 1937 and Corrigendum No. 2 of October 1937) (Pamphlet).	Saleable.
	MISCELLANEOUS MATERIALS.	
P.1-A	Castor seed	Saleable.
,, 2	Button lac	,,

Specification No.	Description.	Remarks.
	MISCELLANEOUS—G.—*contd.*	
G/O-P.-3C	Shellac	Saleable.
" 4B	Spirits, denatured, methylated	"
" 13	Oil, air-craft medium.	
" 14	Oil, air-craft heavy.	
" 33C ..	Creosote oil	Saleable.
" 38	Petrol, aviation.	
" 60C ..	Soap, hard	Saleable.
" 61C ..	Soap, soft	"
" 64A ..	(Cancelled).	
" 65A ..	Tar, crude	Saleable.
" 66A ..	Pitch, coal tar, medium (for road making, etc.)	
" 68A ..	Oxidized (blon) petroleum bitumen ..	
" 69A ..	Steam refined petroleum bitumen	"
" 162 ..	Varnish, insulating, black stoving.	
" 163 ..	Varnish, insulating, black air-drying.	
" 164 ..	Compound special high-melting, tropical for cable, sealing boxes, suitable for 6,000 volts working pressure.	
" 395 ..	Temporary rust preventive.	
	PAINTS AND PAINTERS' MATERIALS, ETC.—G.	
G/P-307/1 to 307/256 ..	Pigments, paints, varnishes, painters' oils and miscellaneous painters' materials. (Corr. No. 1 of August 1936). (Pamphlet).	Saleable.
G/P-307/225 ..	Stand oil.	
G/P-307/257 ..	Cobalt liquid driers.	
*G/P-307/258 ..	Enamel electro insulating gray.	

Specification No.	Description.	Remarks.
	TIMBERS—G.	
G/Timber-30C ..	Sleepers, Deodar, First Class.	
,, 34A ..	Teak squares.	
,, 35 ..	Teak scantlings.	
,, 36A ..	Chir or Dhup squares (*Pinus Longifolia* or *Canarium euphyllum*).	
,, 37 ..	Toon squares or scantlings (*cedrela toona*).	
,, 38A ..	Sal Sleepers, First Class.	
,, 39 ..	Sal Sleepers, Second Class.	
	TOOLS—G.	
G/Tools- 1B ..	Tools for earthwork etc. (Picks and beaters, kodalies, powrahs, mamooties or hoes, sledge and other hammers, jumper and drill steel).	Saleable.
,, 2 ..	Anvils.	
,, 3A ..	Shovels.	
	HARDWARE, COPPER, TIN AND ZINC WARE—G.	
G/Ware-30C ..	Wire, ordinary, steel, hard or annealed, round or half round, either black or galvanized. (Corrigendum No.1 of September 1934 and Corr. No. 2 of October 1938).	Saleable.
,, 31B ..	Iron and steel hoop (for bundling of bhoosa by machinery or otherwise, strapping packing cases etc.).	,,
,, 32D ..	Wire, barbed (Galvanized steel—2 strand). (Corrigendum No. 1 of September 1934).	,,
,, 33C ..	Wire, ordinary steel, round, either black or galvanized (for making mattress cases for boulder filling, for flood protection or similar work). (Corr. No. 1 of Oct. 1938).	,,
,, 35A ..	Brass wire gauze mosquito-proof.	
,, 36B ..	Wire, galvanized, strand, fencing. (3 ply and 7 ply).	Saleable.
,, 37	(Cancelled).	

Specification No.	Description.	Remarks.
	HARDWARE, COPPER, TIN AND ZINC WARE—G.—*contd.*	
G/Wire-38	Small ropes or cords of steel wire.	
„ 39A ..	Steel wire ropes	Saleable.
	WATERWORKS STORES—G/W/W.	
G/W/W-27C ..	(Cancelled).	
‡ „ 34A ..	Steel pipes and specials for water mains and hydraulic power pipe lines. (Corrigendum No. 1 of October 1938).	Saleable.
„ 35B ..	Sluice valves	„
„ 43B ..	Lead pipes for water.	
„ 44B ..	W. I. or M. S. pipes and fittings for gas, water and steam.	Saleable.
„ 54A ..	Water meters	„
„ 55 ..	C. I. spigot and socket, rain water drain pipes and fittings. (Corrigendum No. 1 of November 1936).	„
	ELECTRICAL PLANT AND MATERIALS—H.	
H-23A	Hand shield side entry, and face entry pattern, two pin wall plugs and sockets for circuits up to 250 volts between poles (without earthing connection).	Saleable.
H-24A	Hand shield side entry and face entry pattern, three pin type wall plugs and sockets (two-pin and earth type) for circuits up to 250 volts between poles (with earthing connection).	„
H-25A	Reversible and non-reversible protected type, two pin plugs and sockets for circuits up to 250 volts between poles (with earthing connections).	„
H-26A	Quick make and break tumbler switches (for use on circuits up to 250 volts).	„
H-27B	Cable, electric, dry core, paper insulated, telegraph, multiple, twin, telephone and composite.	„
H-28A	Cable, electric, dry core, paper insulated (telephone) (Addendum No. 1 of December 1937).	„

Specification No.	Description.	Remarks.
	ELECTRICAL PLANT AND MATERIALS—H.—*contd.*	
H-29A	Copper and bronze jointing sleeves, for telegraph and telephone purposes.	Saleable.
‡H-34B	Insulators, porcelain, pin and shackle type, for overhead transmission lines up to 650 volts working pressure. (Corrigendum No. 1 of July 1938).	,,
‡H-42B	Fixed condensers, metal cased, 1st grade, for telegraphs and telephones.	,,
H-45A	Poles tubular steel for electric power transmission	,,
H-46C	Electrical flexible cords, single conductors etc.	
H48F	Fans, ceiling with regulators (with and without condensers). A. C.	Saleable.
H-50B	Portable electric insulation and resistance testing sets.	,,
H-51C	Switchgear, ironclad, flexible unit type, for A. C. or D. C. constant speed motors.	,,
H-55G	Fans, ceiling, with regulators (D. C.). (Corrigendum No. 1 of September 1936).	,,
H-56E	Conductors, circular, copper, hard drawn, solid and stranded for overhead power transmission purposes.	,,
H-57B	Cable, single core, pure and V. I. R. insulated, taped, braided and compound, 250 volts, 600 megohms grade.	,,
H-58C	Wood casing and capping and accessories for electric wiring.	,,
H-60B	Wire, copper, hard drawn, bare for telegraphs or telephones. (Corrigendum No. 1 of November 1933 and Corrigendum No. 2 of September 1934).	,,
H-61E	Cables, paper insulated, lead covered and armoured for electricity supply.	,,
H-64D	Fans, electric, desk or pedestal type, D. C. ..	,,
H-65D	Fans, electric, desk or pedestal type, A. C. ..	,,

Specification No.	Description.	Remarks.
	ELECTRICAL PLANT AND MATERIALS—H—*contd.*	
H-66C	Composition insulators for the P. and T. Department (Corrigendum August 1933).	Saleable.
H-67C	Cable, single core, V. I. R. or 'ITE' insulated, flame retarding, and fire resisting (250 volts) 600 megohms grade.	,,
H-68C	Two and four core twin and quad twisted, compound insulated, lead covered and armoured, telegraph cable.	,,
H69A	Cable, single core V. I. R. insulated tropical grade, taped, braided and compounded (250 volts), 600 megohm grade.	,,
H-70A	Cords, instrument (tropical finish).	
H-71D	Wire, copper, silk covered	Saleable.
H-72C	Wire, copper, cotton covered	,,
H-73A	Four core, rubber insulated, lead covered and under water, telegraph cable.	,,
H-76C	Insulators, porcelain, screw pattern	,,
H-77A	(Cancelled).	
H-80A	7 Strand steel wire, 450 lbs. per mile ..	Saleable.
H-81A	(Cancelled).	
H-82A	(Cancelled).	
H-83C	Galvanised iron and steel wire for telegraphs, telephones and cables. (Corrigendum No. 1 of June 1936 and Corrigendum No. 2 of February 1937.)	Saleable.
H-93B	Caustic soda primary cells (zinc, copper, oxide type) renewals and battery jars.	
‡H-94A	Battery jars for signalling and telegraph purposes.	Saleable.
H-95A	(Cancelled.)	
H-96B	Overhead spanning aerial line cable (Corrigendum No. 1 of January 1938).	Saleable.

Specification No.	Description.	Remarks.
	ELECTRICAL PLANT AND MATERIALS—H—*concld.*	
H-97A	Cable, single core, tropical pattern with enamelled conductor for telephone switchboard or for winding special armatures, etc.	
H-98A	Steel, cored, copper weld wire. (Corrigendum No. 1 of July 1935 and Corrigendum No. 2 of May 1936).	Saleable.
‡H-103B	Sack type wet Leclanche primary cells. (Addendum No. 1 of May 1938).	
‡H-117C	Wire, line, cadmium copper continuously insulated No. 12 S. W. G. (Addendum No. 1 of November 1938).	Saleable.
H-119A	Bronze wires for telegraphs and telephones ..	"
H-120A	Stationery batteries (lead acid type).	
H-121A	Stay sets for poles.	
‡H-122A	Air depolarising type primary cells using ammonium chloride solution.	Saleable.
	POWER AND INDUSTRIAL PLANT—P. I.	
P. I.-19-B	Dragline excavator, light weight, cater pillar type, oil engine operated.	
P. I.-20A	Dragline excavator, light weight, cater pillar type, steam operated, coal firing.	
P. I.-35B	Dragline excavator, light weight, cater pillar type, steam operated, coal or oil firing.	
P. I.-38D	Petrol paraffin engines	Saleable.
‡P. I.-40C	Motor launches	"
P. I.-42A	Steam pile driving plant	"
P. I. 42L	Engines, internal combustion (using crude oil) ..	"
P. I.-45B	Dragline excavator, medium weight, cater pillar type, steam operated, coal or oil firing.	
P. I.-60A	Centrifugal pumps for low and medium lifts ..	Saleable.
P. I.-61A	Stone breaker and screen	"
P. I.-62A	Mortar grinding mill	"

Specification No.	Description.	Remarks.
	POWER AND INDUSTRIAL PLANT—P. I.—*contd.*	
P. I.-65B	Dragline excavator, special light weight, steam operated, coal or oil firing.	
P. I.-74D	Generators and motors, industrial type D. C. with class 'A' insulation.	Saleable.
P. I.-75C	Rotary converters	"
P. I.-76D	Transformer, core type, oil immersed, self-cooled for power and lighting.	"
P. I.-77D	Alternators, salient pole, revolving field, engine driven with class 'A' insulation.	"
P. I.-81F	Switchboard, D. C., open type, when voltage does not exceed normally 650 volts.	"
P. I.-82C	D. C. generators, 3 wire and static balancers, with class 'A' insulation.	"
P. I.-95	Electrically operated, overhead travelling and traversing crane.	
P. I.-106G	Steam operated road rollers, coal or wood fired ..	Saleable.
P. I.-114D	Supply of plant and machinery and their erection at site. (Addendum No. 1 of November 1936).	"
P. I.-116A	Supply of plant and machinery (without erection at site). (Addendum No. 1 of October 1936).	"
P. I.-130A	Reciprocating steam engines for land purposes.	
P. I.-131A	Steam turbine for land work.	
P. I.-132A	Surface condensers.	
P. I.-133A	Water tube boiler, steam raising plant and auxiliaries.	
P. I.-134A	High tension alternators of the steam turbine type or of a similar high speed driven type.	
P. I.-135B	Motors, induction, with class 'A' insulation ...	Saleable.
P. I.-136A	Iron clad type starting and control panels for non-reversing A. C. motors up to 660 volts.	

Specification No.	Description.	Remarks.
	POWER AND INDUSTRIAL PLANT—P. I.—*concld.*	
P. I. 137B	Gear sets, motor driven (A. C. or D. C.) for punkha pulling.	Saleable.
P. I. 138	Electric storage battery trucks	"
P. I.-139A	Crude oil engine driven road rollers	"

Specification No.	Description.	Remarks.
	TEXTILES—G.	
	Cotton.	
G/Tex/C-1	Cotton twine 5/10s.	
" 6	Boy messenger's bag.	
" 7	Sheets, ground, waterproofed, canvas.	
" 8	Paulins, cotton.	
" 10B ..	Bags, kit.	
" 11A ..	Bags, ration, waterproof.	
" 13 ..	Capes with hood, waterproof, for Indians.	
" 14A ..	Cape and hood, waterproof, for Burmans.	
" 15C ..	Newar, grey	Saleable.
" 16D ..	Putties, cotton, of all shades. (Corrigendum No. 1 of November 1936).	"
" 18A ..	Cotton wool, absorbent	"
" 19B ..	Long cloth, cotton, bleached	"
" 21E ..	Bags, dosuti, Postal	"
‡ " 24E ..	Yarn, cotton, grey	"
" 28C ..	Dusters, cotton, hemmed	"
" 30B ..	Sheeting unbleached for veterinary bandages.	
" 33E ..	Threads, cotton, sewing, coloured or white ..	Saleable.
" 34 ..	Muslin, bleached.	
" 36E ..	Bandage cloth (bleached)	Saleable.
" 37B ..	Cloth, alpaca, black	"
" 39C ..	Cloth, paramatta, black	"
" 40D ..	Twill, cotton, khaki (Corrigendum. No. 1 of January 1936).	"
" 43F ..	Lining cloths, cotton, satin and silica cloth.	

Specification No.		Description.	Remarks.
		TEXTILES—G—*contd.*	
		Cotton—contd.	
G/Tex/C-45F	..	Canvas, cotton, khaki, proofed, for motor hoods	Saleable.
" 48	..	Jaconet cloth, grey.	
" 49C	..	Waste, cotton, white for axle box packing.	
" 50	..	Waste, cotton, white, No. 1 B. for cleaning high class machinery.	
" 51A	..	Waste, cotton, coloured for cleaning machinery.	
" 52	..	Waste, cotton, white or coloured, No. 2 for cleaning ordinary machinery.	
" 53G	..	Drill, cotton, dyed, extra heavy, heavy, medium and light qualities (shades other than khaki).	Saleable.
‡ " 54F	..	Drill, cotton, bleached (heavy, medium and light qualities). (Corrigendum No. 1 of March 1939).	"
" 55D	..	Drill, cotton, khaki (heavy, medium and light qualities). (Addendum No. 1 of January 1938).	Saleable.
" 63	..	Webbing cotton, khaki.	
" 64	..	Kullahs.	
" 65B	..	Dosuti, bleached	Saleable.
" 68C	..	Cloth, cotton, table, bleached. (Corrigendum No. 1 of May 1936).	"
" 69A	..	(Cancelled).	
" 70C	..	Sheets, cotton, bed, unbleached	Saleable.
" 71	..	Lungis with headings of gold thread.	
" 73B	..	Lungis, ordinary.	
" 75B	..	Napkins, cotton table, bleached	Saleable.
" 78B	..	Gaberdine, cotton, blue black	"
" 81	..	Pliable sheets of cotton canvas.	

Specification No.	Description.	Remarks.
	TEXTILES—G—*contd.*	
	Cotton—contd.	
G/Tex/C-83B ..	Drill, cotton, grey	Saleable.
„ 85C ..	Towels, hand, honeycomb, bleached	„
„ 87B ..	Towels, bath, Turkish, bleached	„
„ 88A ..	Tape, cotton, white, unbleached (for sealing of railway wagons).	
„ 89 ..	(Cancelled.)	
„ 91A ..	Capes with hood, waterproof. (Corrigendum No. 1 of May 1936).	
„ 92B ..	Canvas, cotton, green, proofed	Saleable.
„ 93A ..	Webbing, cotton, white and coloured.	
„ 94B ..	Cloth, ticking, unbleached	Saleable.
„ 96A ..	Coats, waterproof. (Corrigendum No. 1 of April 1936).	
„ 98 ..	(Cancelled.)	
„ 99 ..	Bags for carrying air mail.	
„ 101D ..	Jerseys (banians) cotton, unbleached ..	Saleable.
„ 102 ..	Cloth Bedford Cord, khaki.	
„ 103C ..	Sheets, bed, bleached and scoured	Saleable.
„ 105 ..	Muslin white bleached (cambric).	
„ 108A ..	Netting, cotton mosquito and sand fly and curtains, mosquito.	Saleable.
„ 109A ..	Stockings, cotton, dyed	„
„ 110 ..	Kharooa cloth.	
„ 111B ..	Canvas cotton, white. (Corrigendum No. 1 of June 1936).	Saleable.
„ 112A ..	Cotton, canvas, khaki, waterproofed for hoods (1st quality).	„

Specification No.		Description.	Remarks.
		TEXTILES—G—*contd.*	
		Cotton—contd.	
G/Tex/C-114A	..	Wicks, cotton, flat, suitable for kerosene oil (other than signal lamp wicks). (Corrigendum No. 1 of May 1937).	Saleable.
" 119A	..	Cloth Holland cotton	"
" 124B	..	Waste, cotton, white, superior, for axle box packing.	"
" 125B	..	Waterproof cape (ground sheet) with a detachable hood.	
" 127B	..	Wicks, cotton, flat, suitable for castor oil (Corrigendum No. 1 of May 1937).	Saleable.
" 129B	..	Sponge cloth	"
" 130A	..	Twill, cotton, striped (bleached)	"
" 131A	..	Cloth, cotton, waterproof, khaki (double fabric, interlined with rubber).	"
" 132B	..	Coir yarn, 2 ply	"
" 139B	..	(Cancelled).	"
" 140B	..	Cloth, cotton, plain, grey	"
" 141B	..	Durries, cotton	"
" 142A	..	Gauze, cotton, absorbent, bleached	"
" 143A	..	Gauze, absorbent, bleached, for first field dressings. (Corrigendum No. 1 of March 1936).	"
" 144	..	Fringes, cotton, dyed.	
" 145A	..	Flannelette, cotton, for lining	Saleable.
" 146A	..	Cloth, cotton, pugri, bleached or dyed. (Addendum No. 1 of September 1936 and Addendum No. 2 of May 1937).	"
" 149	..	Cotton, unginned (Kapas).	

Specification No.		Description.	Remarks.
		TETILES—G—*contd.*	
		Cotton—concld.	
G/Tex/C-150A	..	Sheets, cotton, bleached (linen finished) ..	Saleable.
" 152	..	Cloth, cotton, punkha fringe, stripped (red stripes on grey cotton ground).	
" 153A	..	Boiler cloth.	
" 155	..	Cotton Nainsook bleached for polishing purposes	Saleable.
" 156	..	Lining, ordinary (striped or bleached plain shirting).	
† " 157A	..	Lint absorbent cotton (non-sterilized).	
		Flax.	
G/Tex/F-1	..	Superintendent's camp bag, flax proofed, canvas (single) with locking arrangements.	
" 2	..	Superintendent's camp bags, flax proofed, canvas (double) with locking arrangements.	
" 4B	..	Bags, nose.	
" 5	..	Buckets, canvas, for ponies.	
‡ " 6C	..	Planter's bag with locking arrangements proofed and unproofed.	
" 7A	..	Canvas, flax.	
" 8E	..	Threads and twines, sewing, flax, for upholstery work. (Corrigendum No. 1 of December 1935).	Saleable.
" 34B	..	Canvas, French	"
" 36A	..	Canvas, flax "C" grade. (Corrigendum No. 1 of November 1934).	"
" 37A	..	Canvas, white, unproofed, flax hemp or all hemp, for carriage cushions and seats.	
" 38A	..	Canvas, staying.	
" 45	..	Dowlas, 54″ wide.	
" 46G	..	Paulins.	

Specification No.	Description.	Remarks.
	TEXTILES—G—*contd.*	
	Flax—concld.	
G/Tex/49A ..	Tape, stay, linen	Saleable.
,, 50 ..	Flax mail bags, proofed and unproofed.	
	Hemp.	
G/Tex/H-2 ..	Cordage and line, hemp.	
,, 3 ..	Hemp, twine, English and country for P. and T. Department.	
,, 6 ..	Cash bags, tat putties.	
,, 7A ..	Rope manilla—	
	(*i*) "Special".	
	(*ii*) "Ordinary"	Saleable.
	Jute.	
G/Tex/J-1A	Jute twine, 2 ply, 3 ply, 4 ply, 5 ply and 6 ply.	
,, 12B ..	Jute bags, unproofed, for lineman tools.	
,, 22D ..	Jute mail bags, proofed and unproofed.	
,, 23B ..	Jute paulins.	
,, 37A ..	Jute bags, "B Twill", 44″ × 26½″	Saleable.
,, 38 ..	Gunny cloth for oil pressing.	
,, 39 ..	Hessian cloth	Saleable.
	Miscellaneous.	
G/Tex/Misc. 7 ..	Lace, gold.	
,, 25 ..	Braid, lace and fringes, gold.	
‡ ,, 27D ..	Leather imitation cloth, for binding furniture buttons, and studs. (Add. No. 1 of March 1939).	Saleable.
,, 28E ..	Cloth cotton, long, domestic, jaconet and cheese and tapes cotton.	,,

Specification No.		Description.	Remarks.
		TEXTILES—G—*contd.*	
		Miscellaneous—contd.	
G/Tex/Misc.-30	..	Carpets, Aixminister.	
„ 41B	..	Matting coir. (Corrigendum No. 1 of December 1936).	Saleable.
„ 42A	..	Mat, door, pile, coir. (Corrigendum No. 1 of December 1936).	„
„ 43B	..	Garments, rubber, waterproof.	
„ 44A	..	Stuffing, materials for mattresses, etc. (coir, kapok and cotton).	Saleable.
„ 45A	..	Twines, cotton, jute, hemp and flax	„
‡ „ 47A	..	Linoleum (Corr. No. 1 of May 1938 and Corr. No. 2 of March 1939).	„
„ 49	..	Ropes, coir	„
„ 50		Carpets, hand made for Indian State Railways	„
		Tents and tent materials.	
G/Tex/T-1D	..	General specification for tent components.	
„ 2	..	Swiss cottage tent, square ended.	
„ 3A	..	Hill tent.	
„ 4	..	Tehsildar's tent.	
„ 5	..	Raoti tent, single fly.	
„ 20A	..	Tent necessary.	
„ 21	..	Miniature Swiss cottage tent (round ended).	
„ 22	..	Indian officers' tent (double fly).	
„ 23	..	Kashmere tent, round ended.	
„ 24	..	Tents square ended, forest officers' pattern.	
„ 40A	..	Servant's pals or shoulderies.	
„ 41A	..	Light field service tents, 80 lbs.	

Specification No.	Description.	Remarks.
	TEXTILES—G—*contd.*	
	Tents and tent materials—contd.	
‡G/Tex/T-42B ..	Field officers' kabul pals.	
„ 43A ..	General service tents.	
„ 44 ..	Sowar pal, square ended.	
„ 45A ..	Survey pal, square ended.	
‡ „ 46F ..	Half pal tents and full pal tents.	
„ 47A ..	Mountain battery tents.	
„ 48 ..	Sleeping pal.	
„ 49A ..	Hudson Raoti tent.	
„ 50A ..	Shooting pal (or double fly sleeping pal) with bathroom.	
„ 51 ..	Tents d'abre	
„ 52 ..	Light bath tent.	
„ 53 ..	Staff officer's field service tent (rope ridge).	
„ 54 ..	Elliot pattern miniature Swiss cottage tents.	
„ 55 ..	Swiss cottage tent (Police gazetted officers pattern).	
	Woollen.	
G/Tex/W-1 ..	Wool, black and mixed, for blankets. (Addendum No. 1 of January 1935).	
„ 3B ..	Drawers, worsted	Saleable.
„ 4B ..	Caps, balaclava, worsted	„
‡ „ 5E ..	Waistcoat, cardigan, khaki worsted	„
„ 6E ..	Putties, woollen, khaki or blue	„
„ 7D ..	Cloth, bunting, woollen, white and coloured. (Addendum No. 1 of September 1935 and Corrigendum No. 1 of December 1936) ..	„
„ 8B ..	(Cancelled).	

Specification No.		Description.	Remarks.
		TEXTILES—G—*contd.*	
		Woollen—contd.	
G/Tex/W-10B	..	Cloth, Oxford, woollen grey. (Addendum No. 1 of February 1935)	Saleable.
" 11C	..	Flannel, silver grey	"
" 12C	..	Mittens.	
" 13	..	Packing, woollen, yarn, for main motor and suspension bearings.	
" 16B	..	Flannel, white for bandages. (Addendum No. 1 of January 1935).	
" 18	..	Serges, blue for shore and sea service. (Addendum No. 1 of January 1935).	
" 19	..	(Cancelled).	
" 20C	..	Socks, worsted, blue grey. (Corrigendum No. 1 of December 1933)	Saleable.
" 21D	..	Yarns, woollen	"
‡ " 22C	..	Serges, blue (Corr. No. 1 of March 1939) ..	"
" 23C	..	Broad cloth, woollen.	
" 24	..	Flannel, green, superior quality. (Addendum No. 1 of January 1935).	
" 25	..	Serges of various shades for lining. (Addendum No. 1 of January 1935).	
" 26	..	Flannel, Angola (union) grey. (Addendum No. 1 of January 1935).	
" 29	..	Blankets, saddle.	
" 30D	..	Blankets, woollen, scarlet (Corrigendum No. 1 of October 1937)	Saleable.
" 31D	..	Blankets, woollen, ordinary (Corrigendum No. 1 of October 1937)	"
" 32D	..	Blanket cloth	"
" 34	..	Yarn similar to Illingsworths Thrums for packing bearing boxes of axle generators on electric freight locomotives.	

Specification No.	Description.	Remarks.
	TEXTILES—G—*concld.*	
	Woollen—concld.	
G/Tex/W-36E ..	Jerseys, woollen	Saleable.
,, 51A ..	Cloth woollen, twill, khaki	,,
,, 52C ..	Felt, woollen, white, grey or dyed	,,
,, 53 ..	Numdahs, felt for saddles.	
,, 55A ..	Banians, flannel, blue grey.	
,, 56D ..	Trimming worsted grey and white for use in oil cups on locomotives	Saleable.
,, 63 ..	Cloth, great coat, woollen. (Addendum No. 1 of January 1935).	
,, 64 ..	Yarn, packing worsted, white for packing bearings of electric locomotives.	

* Specifications framed during the year.

† Specifications framed and revised during the year.

‡ Specifications revised during the year.

List of Indian Stores Department Special Specifications current at the end of the year 1938-39.

Specification No.	Description.
	BRIDGEWORK.
A-31	Standard mobilization steel hutting (M. W. services).
A-32	Steel and iron work required by the Indian Public Works Department, Delhi, for the roofing of the Assembly, the Council of State and the Council of Princes' Chambers and Library of the New Legislative Buildings, Imperial Delhi.
A-36	Special construction quarters (portable hutting), for the Lloyd Barrage Project.
A-52	Aeroplane hangar.
	ENGINEER'S PLANT.
B-48	Portable steam pumping engine equipment and hose pipe for the Bikaner Canal, Punjab.
B-49	Crane, one 7-ton Scotch hand derrick for the Irrigation Department, Punjab.
B-51	Portable hand, 5 ton operated crane for 5′-6″ gauge railway track.
B-52	Scotch hand derrick crane constructed of steel.
B-54	*Cancelled.*
	BALLAST AND PERMANENT WAY.
D-3	Light railway track, turntables and trucks, for military purposes.
	ROLLING STOCK.
E-30	Metre gauge steam rail motor with goods truck and goods trailer truck for the Sutlej Valley Project, Punjab Public Works Department.
E-31	Steam locomotives, 2′-0″ gauge, for the Sutlej Valley Project, Bikaner Canal, Punjab Public Works Department.
E-40	Steam locomotives, 2′-0″ gauge, for the Sukkur Barrage Project.
	BUILDING.
G/Buildings 1A	Ordnance Tin Tents.
	CHEMICALS.
G/Chemicals 30	Acid, Sulphuric, Commercial 82% for the P. & T. Department.
	LAMPS AND LAMP FITTINGS.
G/Lamps-11	R. M. S. folding candle lantern for the P. & T. Department.
„ 16	Brass sealing lamp for the P. & T. Department.
„ 23	Table lamps, hanging lamps and hurricane lantern, for Director General, P. & T.
„ 24	Incandescent hurricane or hanging lantern, petrol pressure type, for the P. & T. Department.
	LEATHER AND RUBBER.
G/Leather-44	Waist, belt, leather, for P. W. D., Punjab.
„ 45	Meshas.

Specification No.	Description.
	LEATHER AND RUBBER—*contd.*
G/Leather-47A	Boots, ankle (followers).
,, 49	R. M. S. portfolio (G. pattern).
,, 50	Portfolio with lock, supervising officer (for P. & T. Department).
,, 51	R. M. S. Leather portfolio fitted with compartments for stamps, seals, etc.
,, 52	Leather belts for G. I. P. Railway.
,, 53	Derby shoes, black or brown, for E. I. Railway (Crew staff).
,, 57	Leather goods for Police Department.
,, 58A	Rubber pilot balloons for air observations for the Indian Meteorological Department.
,, 60	*Cancelled.*
,, 62	Lace, leather for belting for G. I. P. Railway.
	METALS.
G/Metals-47	Antifriction metal, high grade and low grade, for the Military Engineer Services.
	MISCELLANEOUS.
G/Misc.-3A	Kit boxes for sea service for M. E. S.
,, 4A	Double security bond boxes and stamp boxes for the P. & T. Department.
,, 5	Despatch boxes for the Post Master General, Bombay.
,, 6-A	Safes for the D. G., P. & T. Department.
,, 7A	Tin box for insurance seal types and tin box for stamp types for R. M. S.
,, 8A	Lead seals for Posts and Telegraphs Department.
,, 9A	Clocks and time-pieces for the P. & T. Department.
,, 10	Tin trays to hold Rs. 1,000 and Rs. 500 for the P. & T. Department.
,, 11A	Badges, brass, for the P. & T. Department.
,, 12	*Cancelled.*
,, 13	Punching machine for the Posts and Telegraphs Department.
,, 14	Spear head with brass bells for the P. & T. Department.
,, 16	Tin sheets for the P. & T. Department.
,, 17	Brush sweeping.
,, 18	Brush for painting letter boxes.
,, 19A	Brush for cleaning stamps.
,, 20	Wooden blocks for label for the P. & T. Department.
,, 21B	Enamelled sheet steel signboards, letter box plates etc., for the P. & T. Department.
,, 22A	*Cancelled.*
,, 23	Tin seal holder for the P. & T. Department.

Specification No.	Description.
	MISCELLANEOUS.—*contd.*
G/Misc.-26B	Crumps, adjustable proportional modules, for Irrigation Department, Punjab.
„ 33	Lead seals for the Controller of Currency.
„ 45	Brass padlocks, box locks, drawer or almirah locks for iron safes and special locks, for the P. & T. Department.
‡„ 46	Scales and weights for the P. & T. Department (Corr. No. 1 of June 1938).
„ 47	Fireclay for the N. W. Railway.
„ 49	*Cancelled.*
„ 50	Hose, India Rubber, delivery, armoured, 2½″ bore for E. I. Railway.
„ 60	Bedsteads, all metal, Army Hospital Pattern, Mark I.
„ 65A	Bicycles, Hercules single and double bar for Government Department.
	OILS, LUBRICANTS, ETC.
G/O.P.-43	Oils for use of Government Telegraph Department.
„ 67A	Wood Tar.
„ 152	Oil, lubricating, crank chamber, high speed steam engine No. 2, for Bengal Nagpur Railway.
„ 384	Grease machine, for E. I. Railway.
	PAINTS AND PAINTER'S MATERIALS ETC.
G/P-301	Green paint, special, readymixed to E. B. Railway shade.
	TOOLS.
G/Tools-4A	*Cancelled.*
	WATER-WORKS STORES.
G/W.W.-31	Wrought iron or mild steel pipes for water for the Bikaner Canal.
„ 51A	89,000 c.ft. of rising main, special, sluice valves, air valves, etc. from Ramgarh to Jaipur for the Water Supply Scheme for Jaipur State P. W. D.
„ 52	Distribution piping, specials, valves and accessories for the water supply scheme for the Jaipur State P. W. D.
„ 53	Piping specials, valves and accessories for water supply, P. W. D. New Delhi.
	ELECTRICAL PLANT AND MATERIALS.
H-59	D. C. generator panel for Ambala.
H-74 B	Zinc, circular, special design, moulded for electric cells.
H-88	Belting for train lighting dynamos for Indian Railways.
H-89 B	*Cancelled.*
H-99	Withdrawn.
H-100	(*Cancelled*).

Specification No.	Description.
	ELECTRICAL PLANT AND MATERIALS—*contd.*
H-101	Switchboard Ironclad A. C. Pillar type for G. I. P. Railway.
H-102	Sub-station Kiosk type for G. I. P. Railway.
H-104 A	Cables bazar, 400 volts, multicore, insulated single wire armoured for P. W. D. Electricity Branch, Punjab.
H-105	Insulators for P. W. D. Electricity Branch, Punjab.
H-106	Hot galvanizing for P. W. D. Electricity Branch, Punjab.
H-107	Electrodes for use on M. S. Bridgework for N. W. Railway.
H-108	Cables 230 volts twin core, insulated, single wire armoured domestic service leading-in cable.
H-109	Conductors, solid and stranded, copper and cadmium copper.
H-110	Inter-carriage electric couplers and cables for Broad Gauge Coaching Stock for N. W. Railway.
H-111	Cables, telephone, underground for P. W. D., Electricity Branch, Punjab.
H-112	Poles, tubular, steel, and its accessories for P. W. D., Electricity, Branch, Punjab.
H-113 B	(*Cancelled*).
H-114	Floodlight Projector Lanterns for the illumination of Railway yards.
H 116	Alkaline cells for use on Electro Magnetic Strain gauge Testing apparatus.
H-116	Masts Floodlight.
	POWER AND INDUSTRIAL PLANT.
P.I.-26	Jolly boat.
P.I.-27	Heave-up boat for the Lloyd Barrage Works, Sukkur.
P.I.-28	Heave-up boat for the Lloyd Barrage Works, Sukkur.
P.I.-36	Electric hoists or winches.
P. I. 37	Dredgers (grab type).
P. I. 41	Pile driver and frame for the Sutlej Valley Project.
P. I. 46	Steam and exhaust piping for the Nalagarh Power House.
P. I. 47	Two 25 K.W. oil engine driven generating sets and switchboard for the British Infantry Barracks, Lahore.
P. I. 48	Turbo-alternator set, condensing plant, cranes, boiler economiser pumps, steel chimney, steam and exhaust pipe work, switchboard motor converter set, rotary converters, substation plant, extra high tension feeder cables and auxiliaries, for the Public Works Department, Delhi.
P. I. 50	Concrete Mixers and prime movers, required for the Bikaner Canal Sutlej Valley Project.
P. I. 51	Stone breaker plant and screens for the Nalagarh Quarries, Sutlej Valley Irrigation Project.

Specification No.	Description.
	POWER AND INDUSTRIAL PLANT.—*contd.*
P. I. 52	Generating plant, transformers switchgear, pump and motors, for the Nalagarh Quarries Power Plant, Punjab Irrigation Department.
P. I. 53	Generating plant, transformers, switchgear, pump and motors for the Ferozepore Division Power Plant, Punjab Irrigation Department.
P. I. 54	Concrete mixers with motors for the Sutlej Valley Project.
P. I. 55	One 53, 4 K.V.A. oil engine driven A. C. generating set with exciter for the Northern India Salt Revenue Department, Sambhar Lake.
P. I. 56	Switchgear for the Northern India Salt Revenue Department, Sambhar Lake.
P. I. 57	A. C. motor and control gear, for the Government of India Press, Simla.
P. I. 58	A. C. motors, control gear, main switchpanel, cable work and wiring for the experiment spinning plant and Technological laboratory of the Indian Central Cotton Committee, Bombay.
P. I. 59	Two 4 K.W. oil engine driven generating sets and switchboards for the Military Works Services, Nowshera Sub-District, Northern Command.
P. I. 63	Passenger, goods and service lifts, required by the P. W. D., for the New Legislative Buildings, Delhi.
P. I. 64	Passenger, goods and service lifts, required by the P. W. D., for the Government House, Delhi.
P. I. 66.	Oil engine alternator set, water cooling plant, crane, switchgear and cables for power station, transformer switchgear and cables for a sub-station for the Lloyds Barrage Works, Sukkur.
P. I. 70	Oil engine dynamo set, main fuel tank complete with pipework, water cooling plant, crane, switchgear and cables for power station and motors, control gears and cables for the Press machinery for the Government Postal Press, Aligarh.
P. I. 78	Additional oil engine alternator sets, water cooling plant, transformers, switchgear and cables for the Power Station fo the Lloyd Barrage Works, Sukkur.
P. I. 79	Concrete blockyard plant for the Lloyd Barrage Project, Sukkur.
P. I. 83	325 K.W. oil engine alternator sets, water cooling plant, oil fuel storage tank complete with pipework, crane transformer, switchgear, and connecting cables, induction motors, E. H. T. feeder cables and accessories for Power Station and Miscellaneous plant, for salt Mines Khewra.
P. I. 84	Goods lifts for Postal Press, Aligarh.
P. I. 85	Electrically driven pumping machinery mounted on pontoons for dewatering coffer dams for the Lloyd Barrage Works, Sukkur.
P. I. 86	Oil engine driven power plant for the New Power Station, Municipal Board, Mussoorie.

Specification No.	Description.
	POWER AND INDUSTRIAL PLANT.—*contd.*
P. I. 87	Plant for Hydro-electric scheme, Municipal Board, Mussoorie.
P. I. 88	Oil engine driven power station for Jaipur.
P. I. 89	Pile driving plant mounted on pontoons for the Lloyd Barrage Works, Sukkur.
P. I. 90	Scotch derrick crane, motor driven, to lift 25 and 10 tons, on pontoons for the Lloyd Barrage Works, Sukkur.
P. I. 91	Steam driven paddle tugs for the Lloyd Barrage Works, Sukkur.
P. I. 92	Barges for the Lloyd Barrage Works, Sukkur.
P. I. 93	Oil engine driven (diesel) Bucyrus dragline excavators, 30 B, for the Lloyd Barrage Works, Sukkur.
P. I. 94	Oil engine driven (diesel) Bucyrus dragline excavators, 50 B, for the Lloyd Barrage Works, Sukkur.
P. I. 96.	Electrical plant for P. W. D., Punjab.
P. I. 97	30-B diesel engine driven Bucyrus dragline excavator for the Lloyd Barrage Works, Sukkur.
P. I. 99	Steel barges of capacity up to 100 tons of stone for the Lloyd Barrage Works, Sukkur.
P. I. 100	50-B, diesel engine driven Bucyrus dragline excavator for the Lloyd Barrage Works, Sukkur.
P. I. 101	Sluice gates for the Panjnad Barrage on the river Sutlej, thirty three gates, clear width of opening 60′—0″. 18′—6″ deep for Punjab Public Works Department.
P. I 102	Gates for the undersluices for the Weir across the river Damodar.
P. I. 103	250 K. W., 2300 volts full diesel oil engine alternator sets for the P. W. D., Simla.
P. I. 104	One 600 K. W., 3,300 volts, oil engine alternator set, oil fuel service tanks, etc., for additional power station, Jaipur P. W. D.
P.I. 105	Steel barges of capacity up to 100 tons of stone for Lloyd Barrage Works, Sukkur.
P. I. 107	Three, 200 K.W., 400 volts water turbine alternator sets, etc. for the Sumera Hydro Electric Pumping and Power Scheme for the P. W. D., United Provinces.
P. I. 108	Radial gates for the head and cross regulators for main canal and branches of the Lloyd Barrage and Canal Construction, Sind.
P. I. 109	Sluice gates, vertical sliding and radical types for small branches, distributions and minors of the Lloyd Barrage and Canal Construction, Sind.
P. I. 115	Sea-going steam lighter for Forest Department, Port Blair.
P. I. 117	Pumping plant, oil engine driven, tube with turbine, for N. W. Railway.
P. I. 118	Pumping plant, oil engine driven, centrifugal, for N. W. Railway.
P. I. 119	Pumping plant, oil engine driven Air Lift cum centrifugal, for N. W. Railway.
P. I. 123	Pumping plant, electrically driven, Air-lift cum centrifugal, for N. W. Railway.

Specification No.	Description.
P.I. 125	A. C. motor and control gear for driving pumping plant for N. W. Railway.
P. I. 126	Control gear for the control of induction motors, for N. W. Railway.
P. I. 127	Pumps, centrifugal, A. C. motor driven for N. W. Railway.
P. I. 129	Motor alternator set with testing transformer and induction regulator for the Government Test House, Alipore, Calcutta.
	TEXTILES.
G/Tex./C- 4	Cotton canvas brown for O. & R. Railway.
„ 17 B	Capes with hoods, waterproof, for the Postal Department. (Corr. No. 1 of Oct. 1936).
„ 25	File bundling sheet of blue drill for the P. & T. Department.
„ 26 A	Khaki drill sacks, postman's, for the P. & T. Department.
„ 27 D	Waterproof khaki drill, delivery bag, for the P. & T. Department.
„ 29	Clothing materials for the use of the staff of the P. & T. Department.
„ 32	Cape with hood, waterproof, for Bombay Police. (Corr. No. 1 of Oct. 1936.)
„ 72	Dosuti, grey, for Borstal Insiitute, Lahore.
„ 74	Turbans, khaki, for G. I. P. Railway Staff.
„ 76	Dosuti, khaki, for N. W. Railway.
„ 77	Dosuti, grey, for E. I. Railway.
„ 79 B	Lungis, ordinary, for Sind Police.
„ 84	Grey drill, unbleached, for Borstal Institute, Lahore.
„ 86	Sheeting, grey, for Borstal Institute, Lahore.
„ 97	Dosuti, grey (heavy quality) for Railways.
„ 107	Flashes and belts for E. I. Railway.
„ 113	Shorts and blouses, khaki, for G. I. P. Railway.
„ 115	Red flags with letter P. W. D. for roads under repair.
„ 116 C	Badge cloth, embroidered C. and W. for N. W. Railway.
„ 117	Ground sheets, water proofed, for prisons, Burma, Bihar and Patna.
„ 118	Long cloth, bleached, for Government Printing and Stationery Department, Burma.
„ 120	Canvas cotton, black, for N. W. Railway.
„ 121	Bags, waterproof, for clearance of outside letter boxes.
„ 122	Long cloth, bleached, for overalls, for E. I. Railway.
„ 126	Bags kit, canvas, cotton, white, for Madras Police.
„ 128	Bags, dosuti, cotton, for the Opium Factory, Ghazipur.
„ 147	Covers, slip, for Mattresses for E. I. Railway.

Specification No.	Description.
	TEXTILES.
G/Tex/C.-148	Lace (tape), cotton, yellow, for Bombay City Police.
" 151 B	Cloth, cotton, Mazri, for Zhob Militia.
" 154 A	Canvas cotton khaki, unproofed for the upper sides of carriage cushions for E. B. Railway.
G/Tex/F- 48	Waterproof sheets for blankets for Assam Police.
G/Tex/J- 33 A	Hand bags for R. M. S. sorters.
" 34	Canvas, jute, unproofed, for I. G. Police Madras.
" 35	Felt, tarred, jute, for N. W. Railway.
G/Tex/Misc-1	Waist and shoulder belts of red broad cloth for Postal Department.
" 2 J	Summer uniforms for the E. I. Railwyay Staff (Corr. No. 1 of April 1935).
" 31	Winter uniforms for E. I. Railway staff. (Corr. No. 1 of April 1937).
" 24	Clothing material for Government of India menial staff,
" 26 A	Belt with gold lace and with brass fastener for the N. W. Railway.
" 40	Gold lace for the uniforms of Government of India menial staff.
" 46 A	Uniforms for G. I. P. Railway staff.
" 48 A	Uniform for Railway Police Rajputana.
G/Tex/W-14 A	Broad cloth, dark blue, for Bombay Police. (Add. No. 1 of Jan. 1935).
" 15	Serge, white, for Medical and Veterinary Department. (Add. No. 1 of Jan. 1935.)
" 17 A	Great coats with capes for mounted and foot police, Sind.
" 28 B	*Cancelled*.
" 38 A	Great coats with capes for Salt and Excise Department, Sind.
" 39	Serge, khaki, for G. I. P. Railway. (Add. No. 1 of January 1935.)
" 41	Serge, grey, for E. I. Railway. (Add. No. 1 of January 1935.)
" 50	Drab mixture great coat cloth for I. G. Prisons, Bombay. (Add. No. 1 of January 1935).
" 57	Great coat cloth, khaki, for the Assam Police, 1, 2 and 4 Assam Rifles. (Add. No. 1 of January 1935).
" 58	Kambalies, woollen, for Bombay Forest Department.
" 60	Great coats, foot and mounted types, for the Railway Police Rajputana.
" 61	Blue grey hosiery worsted yarn for the Jail Department, Burma.
" 62	Lohies, natural grey, for the P. and T. Department, Kashmir.
" 65	Buntings for R. I. M. Dockyard, Bombay. (Add. No. 1 of January 1935).
" 66	*Cancelled*.

± Specifications revised during the year.

APPENDIX XI.

Statement showing the work done by Inspection Branch.

Value and tonnage of stores inspected and number of tests and analyses carried out.

(*Vide* paragraphs 3, 43 and 50 of the Report.)

—	Value of stores inspected and charged on value.				Tonnage of stores inspected and charged on weight.				Number of tests and analyses carried out.			
	1935-36.	1936-37.	1937 38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.
	Rs.	Rs.	Rs.	Rs.	Tons.	Tons.	Tons.	Tons.	Nos.	Nos.	Nos.	Nos.
1. Provincial Inspectorates (Calcutta, Bombay, Karachi, Upper India, Cawnpore and Madras).	6,53,54,815	5,84,79,755	7,26,51,227	7,98,53,688	67,541	62,731	64,060	66,648	..	..	..	..
2. Metallurgical Inspectorate, Tatanagar.	22,76,741	13,39,101	21,80,960	16,92,945	3,27,467	2,73,644	3,71,549	3,50,909	10,731	9,202	13,817	13,379
3. Government Test House, Alipore	..	..	..	..	..	..	..	..	8,329	9,026	9,085	11,384
Total ..	6,76,31,556	5,98,18,856	7,48,32,187	8,15,46,633	3,95,008	3,36,375	4,35,609	4,17,557	19,060	18,228	22,902	24,763
Deduct tests carried out for the Indian Stores Department.									5,342	5,686	6,115	5,730
Net Total ..									13,718	12,542	16,787	19,033

Note I.—For fees earned see Appendix XX.

Note II.—In addition to the items of work shown against the Metallurgical Inspectorate 25,346 coils of cables manufactured at the works of the Indian Cable Co. were inspected against 60,457 in 1937-38.

APPENDIX XII.

Statement showing inspection work carried out for various authorities (material charged on value).

(*Vide* paragraphs 3, 43 and 50 of the Report.)

rities on whose behalf stores were inspected.	Calcutta Inspection Circle. 1935-36.	1936-37.	1937-38.	1938-39.	Bombay Inspection Circle. 1935-36.	1936-37.	1937-38.	1938-39.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
purchased by other Departments which were only inspected he Indian Stores Department.								
ntral Government Departments, Civil	1,062	..	..	..	5,483	5,366	57,213	1,39,055
ntral Government Departments, Defence	..	..	..	..	..	..	..	..
ilways, State-worked ..	1,23,52,850	53,58,867	75,84,171	81,20,115	7,78,722	4,81,886	1,29,928	23,320
ilways, Company-worked ..	47,28,491	51,80,461	48,09,126	86,64,658	14,48,665	1,01,807	1,94,498	3,17,030
ilways worked by Indian States	80,200	1,52,061	1,04,089	1,34,486	20,022	96,044	19,204	22,105
—Railway Administrations	1,71,61,541	1,06,91,389	1,24,97,386	1,69,19,259	22,47,409	6,79,737	3,43,630	3,62,455
ovincial Governments ..	2,24,334	1,08,706	39,445	1,21,760	205	48,341	59,753	28,121
asi-public bodies ..	17,445	..	3,456	..	..	..	..	..
ivate concerns and Indian States	6,270	4,705	1,08,399	38,051	..	1,735	20,414	9,488
reign Governments and ublic bodies	..	..	..	..	..	..	..	..
urma Railways ..	(*a*)	(*a*)	59,358	39,379	..	..	..	..
—Orders placed by other Departments and inspected y the Indian Stores Department.	1,74,10,652	1,08,04,800	1,27,08,044	1,71,18,449	22,53,097	7,35,179	4,81,010	5,39,119

rities on whose behalf stores were inspected.	Karachi Inspection Circle. 1935-36.	1936-37.	1937-38.	1938-39.	Upper India Inspection Circle 1935-36.	1936-37.	1937-38.	1938-39.	Cawnpore Inspection Branch. 1935-36.	1936-37.	1937-38.	1938-39.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
ntral Government Departments, Civil	..	..	..	..	..	7,500	..	..	..	..	..	..
ntral Government Departments, Defence	..	..	5,234	..	..	..	..	..	..	..	..	..
ilways, State-worked	..	68,802	3,610	..	350	..	200	6,953	2,645	..	..	3,634
ilways, Company-worked	..	..	589	2,800	..	..	..	..	..	..	..	..
ilways worked by Indian States	362	12,951	36,236	31,081	..	..	..	..	..	..	..	..
—Railway Administrations	362	81,753	40,435	33,881	350	7,500	200	6,953	2,645	..	..	3,634
ovincial Governments	..	..	..	..	30,204	1.110	2,000	..	..	..	..	..
asi-public bodies	..	..	..	..	..	..	..	..	..	..	..	..
ivate concerns and Indian States	83,500	34,000	7,148	..	..	..	2,84,083	1,014	..	16,800	..	18,169
reign Governments and ublic bodies	..	..	..	..	..	..	..	..	5,699	5,320	2,760	11,011
urma Railways	..	..	..	..	..	..	..	..	..	..	..	..
—Orders placed by other Departments and inspected y the Indian Stores Department.	83,862	1,15,753	52,817	33,881	30,554	8,610	2,86,283	7,967	8,344	22,120	2.760	32,814

rities on whose behalf stores were inspected.	Madras Inspection Branch. 1935-36.	1936-37.	1937-38.	1938-39.	Total stores charged on value inspected by Provincial Inspectorates. 1935-36.	1936-37.	1937-38.	1938-39.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
ntral Government Departments, Civil	..	..	..	..	6,545	12,866	57,213	1,39,055
ntral Government Departments, Defence	..	..	..	..	..	..	5,234	..
ilways, State-worked	..	..	..	..	1,31,34,567	59,09,555	77,17,909	81,54,022
ilways, Company-worked	..	..	..	..	61,77,156	52,82,268	50,04,213	89,84,488
ilways worked by Indian States	..	..	..	..	1,00,584	2,61,056	1,59,529	1,87,672
—Railway Administrations	..	..	..	..	1,94,12,307	1,14,52,879	1,28,81,651	1,73,26,182
ovincial Governments	..	..	..	..	2,54,743	1,58,157	1,01,198	1,49,881
asi-public bodies	..	..	..	..	17,445	..	3,456	..
ivate concerns and Indian States	34,802	25,402	30,091	26,955	1,24,572	82,642	4,50,135	93,677
reign Governments and ublic bodies	..	..	..	..	5,699	5,320	2,760	11,011
urma Railways	..	..	..	..	..	..	59,358	39,379
—Orders placed by other Departments and inspected y the Indian Stores Department.	34,802	25,402	30,091	26,955	1,98,21,311	1,17,11,864	1,35,61,005	1,77,59,185
The value of stores inspected against orders placed by the Indian Stores Department					4,55,33,504	4,67,67,891	5,90,90,222	6,20,94,503
GRAND TOTAL ..					6,53,54,815	5,84,79,755	7,26,51,227	7,98,53,688

rities on whose behalf stores were inspected.	Metallurgical Inspectorate, Tatanagar. 1935-36.	1936-37.	1937-38.	1938-39.	Total stores inspected 1935-36.	1936-37.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
ntral Government Departments, Civil	2,506	8,833	..	..	9,051	21,690
ntral Government Departments, Defence	69	..	2,917	38,699	69	..
ilways, State-worked	..	..	..	..	1,31,34,567	59,09,555
ilways, Company-worked	..	..	..	..	61,77,156	52,82,268
ilways worked by Indian States	..	..	..	..	1,00,584	2,61,056
—Railway Administrations	2.575	8,833	2,917	38,699	1,94,12,307	1,14,52,879
ovincial Governments	4,82,130	13,959	4,565	49	7,36,873	1,72,116
asi-public bodies	..	..	..	..	17,445	..
ivate concerns and Indian States	*—23,360	..	..	..	1,01,212	82,64
reign Governments and ublic bodies	..	..	..	..	5,699	5,32
urma Railways	..	..	..	..	..	..
—Orders placed by other Departments and inspected y the Indian Stores Department.	4,61,345	22,792	7,482	38,748	2,02,82,656	1,17,34,65
The value of stores inspected against orders placed by the Indian Stores Department	18,15,396	13,16,309	21,73,478	16,54,197	4,73,48,900	4,80,84,20
GRAND TOTAL ..	22,76,741	13,39,101	21,80,960	16,92,945	6,76,31,556	5,98,18,8

SD (*a*) Included under State-worked Railways.

* This minus figure is due to readjustment of Rs. 23,669 relating to a transaction made in 1934-35. The actual amount relating to the year 1935-36 was Rs. 309.

APPENDIX XIII.

Statement showing inspection work carried out for various authorities which is charged on weight.

(*Vide* paragraphs 3, 43 and 50 of the Report.)

Authorities on whose behalf stores were inspected.	Calcutta Inspection Circle.				Bombay Inspection Circle.				Karachi Inspection Circle.				Cawnpore Inspection Branch.				Total Provincial Inspectorates.				Metallurgical Inspectorate, Tatanagar.				Total tonnage of stores inspected and charged on weight.			
	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38	1938-39.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1. Central Government Departments, Civil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,235	53	..	..	3,235	53	..	..
2. Central Government Departments, Defence	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. Railways, State-worked	62,320	54,775	51,740	44,818	..	..	..	..	..	13	..	..	..	691	1,240	1,954	62,320	55,479	52,980	46,772	72,263	62,563	43,574	46,290	1,34,583	1,18,042	96,554	93,062
4. Railways, Company-worked	4,695	6,705	9,151	10,460	..	..	..	..	..	..	..	..	..	..	..	..	4,695	6,705	9,151	10,460	20,978	30,378	27,790	45,836	25,673	37,083	36,941	56,296
5. Railways worked by Indian States ..	88	..	710	6,585	..	..	..	..	..	..	1	..	..	..	..	..	88	..	711	6,585	2,391	1,110	..	2,030	2,479	1,110	711	8,615
Total Railway Administrations ..	67,103	61,480	61,601	61,863	..	..	..	..	..	13	1	..	..	691	1,240	1,954	67,103	62,184	62,842	63,817	95,632	94,051	71,364	94,156	1,62,735	1,56,235	1,34,206	1,57,973
6. Provincial Governments	..	66	8	28	..	..	..	..	..	..	..	..	..	..	..	.	..	66	8	28	..	..	..	..	..	66	8	28
7. *Quasi*-public bodies	..	30	1	138	..	..	..	..	..	..	..	..	..	..	..	.	..	30	1	138	..	..	7,886	..	..	30	7,887	138
8. Private concerns and Indian States ..	66	285	972	2,285	264	96	145	68	..	..	..	..	..	..	..	..	330	381	1,117	2,353	2,28,600	1,79,540	2,92,299	2,56,753	2,28,930	1,79,921	2,93,416	2,59,106
9. Foreign Governments and public bodies	108	70	89	303	..	..	..	..	..	..	..	..	..	..	..	..	108	70	89	303	..	..	..	..	108	70	89	303
10. Burma Railways	(a)	(a)	3	9	.	..	..	..	..	..	..	..	..	..	..	..	..	..	3	9	..	..	..	..	..	..	3	9
Total ..	67,277	61,931	62,674	64,626	264	96	145	68	..	13	1	..	..	691	1,240	1,954	67,541	62,731	64,060	66,648	3,27,467	2,73,644	3,71,549	3,50,909	3,95,008	3,36,375	4,35,609	4,17,557

(*a*) Included under State-worked Railways.

APPENDIX XIV.

Statement showing the particulars of work done in each Inspectorate.

(*Vide* paragraphs 3 and 43 of the Report.)

Name of Circle. (1)	No. of orders received for Inspection. (2)				Amount of orders received for Inspection chargeable on value. (3)				Tonnage of material inspected on weight basis. (4)			
	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.
	Nos.	Nos.	Nos.	Nos.	Rs.	Rs.	Rs.	Rs.	Tons.	Tons.	Tons.	Tons.
Calcutta Inspection Circle ..	28,660	29,860	32,667	30,439	4,34,18,904	6,14,46,243	5,17,24,544	3,71,48,379	67,277	61,931	62,674	64,626
Bombay Inspection Circle ..	14,913	15,762	17,786	16,294	1,29,95,685	1,14,01,409	1,30,18,453	1,05,46,622	264	96	145	68
Karachi Inspection Circle ..	7,908	8,278	10,343	10,009	66,61,438	64,96,546	93,12,409	90,80,793	..	13	1	..
Upper India Inspection Circle	5,680	5,703	5,732	6,118	58,98,770	54,13,174	54,30,634	75,16,886	..	..	..	..
Cawnpore Inspection Branch ..	3,136	2,967	3,270	3,885	22,78,349	17,36,625	*28,78,350	24,89,590	..	691	1,240	1,954
Madras Inspection Branch ..	4,089	4,188	4,964	5,317	15,08,761	15,20,733	15,68,339	16,03,525	..	..	..	..
Total Provincial Inspectorates	64,386	66,738	74,762	72,062	7,27,61,907	8,80,14,703	8,39,32,729	6,83,85,795	67,541	62,731	64,060	66,648

* The value of orders received for inspection shown in the Administration Report for 1937-38 has been revised due to certain subsequent adjustments.

APPENDIX XV.

Statement showing the number of tests and analyses carried out for various authorities.

(*Vide* paragraphs 3, 50 and 56 of the Report.)

Authorities on whose behalf tests, analyses etc., were carried out.	Metallurgical Inspectorate, Tatanagar.				Government Test House, Alipore.				Total numeber of tests and analyses carried out.			
	1935-36.	1936 37.	1937-38.	1938-39.	1935-36.	1936-37	1937-38.	1938-39.	1935-36.	1936-37.	1937-38.	1938-39.
For the Indian Stores Department	9	14	33	33	5,333	5,672	6,082	5,697	5,342	5,686	6,115	5,730
Outside authorities—												
1. Central Government, Civil	..	6	22	45	210	262	385	440	210	268	407	485
2. Central Government, Defence	..	..	..	..	223	405	304	1,413	223	405	304	1,013
3. Railways, State-managed	61	20	24	17	475	371	174	235	536	391	198	252
4. Railways, Company-managed	67	16	49	78	121	303	146	110	188	319	195	188
5. Railways managed by Indian States	..	4	..	..	70	47	16	41	70	51	16	41
Total Railway Administrations ..	128	40	73	95	666	721	336	386	794	761	409	481
6. Provincial Governments	1	1	2	..	253	244	199	446	254	245	201	446
7. *Quasi*-Public bodies	..	..	2	..	139	242	255	428	139	242	257	428
8. Private concerns and Indian States	10,593	9,141	13,685	13,206	1,505	1,480	1,524	2,574	12,098	10,621	15,209	16,180
Total ..	10,731	9,202	13,817	13,379	8,329	9,026	9,085	11,384	19,060	18.228	22,902	24,763

APPENDIX XVI.

Statement showing the articles tested in the Government Test House, during the year 1938-39.

(*Vide* paragraphs 3 and 56 of the Report.)

Serial No.	Articles.
1	Accessories, Electrical.
2	Acid.
3	Aluminium.
4	Apparatus, flash point.
5	Apparatus oxygen.
6	Antimony.
7	Asbestos, steam jointing.
8	Asbestos sheet.
9	Asphalt.
10	Aviation spirit.
11	Barytes.
12	Batteries.
13	Bauxite.
14	Belting.
15	Benzene.
16	Blades.
17	Bib cock.
18	Bitumen.
19	Bolts.
20	Brass.
21	Bricks.
22	Bucket.
23	Cables.
24	Calcium carbide.
25	Cakes, vegetable.
26	Candle wax.
27	Canvas.
28	Carbon.
29	Cells.
30	Cement.
31	Chain.
32	Chemicals.
33	Clay.
34	Coal.
35	Coal tar.
36	Coke.
37	Concrete.
38	Copper plates.
39	Cordages, cotton, flax and jute.
40	Deposit.
41	Disinfectant.
42	Drillings.
43	Drums.
44	Dubbin.
45	Eezit.
46	Fabrics, cotton.
47	Fabrics, jute.
48	Fabrics, woollen.
49	Fans and regulators.
50	Files of sorts and sizes.
51	Fire extinguisher.
52	Fittings, electric.
53	Fittings, A. V. B.
54	Fluid flux.
55	Flour.
56	Flux welding.
57	Fountain pen.
58	Gas, acetylene.
59	Glass.
60	Glass paper.
61	Graphite.
62	Grease.
63	Gold.
64	Gum.
65	Hammer, steel.
66	Harness.
67	Hooks, drawbar.
68	Hurricane lantern.
69	Ilmenite.
70	Ingot.
71	Ink.
72	Insecticide.
73	Insulator.
74	Insulating material.

Serial No.	Articles.	Serial No.	Articles.
75	Iron.	117	Quinine.
76	Knives.	118	Ropes, metallic.
77	Lamps, electric.	119	Ropes, non-metallic.
78	Lead.	120	Roller, spring nut.
79	Leather.	121	Rosin.
80	Lime.	122	Rubber.
81	Limestone.	123	Salt.
82	Manganese ore.	124	Sand.
83	Manganese chloride.	125	Screw coupling.
84	Manure.	126	Scissors.
85	Mattress, asbestos.	127	Sealing compound.
86	Measuring can.	128	Seeds, castor.
87	Mercury sphygmomanometer.	129	Seeds, cake.
88	Metal antifriction.	130	Sheets, corrugated.
89	Meter, house service.	131	Sheets, corrugated, asbestos.
90	Meters, electrical.	132	Sheets, aluminium.
91	Metal cleaning compound.	133	Shellac.
92	Oil, creosote.	134	Shovel handle.
93	Oil, fish.	135	Silt.
94	Oil, Fuel.	136	Sludge.
95	Oil, kerosene.	137	Soap.
96	Oil, lubricating.	138	Solder.
97	Oil, seeds.	139	Soil.
98	Oil, transformer.	140	Spirit, Methylated.
99	Oil, vegetable.	141	Springs, Rubber.
100	Ore.	142	Steel.
101	Oxygen cylinder gas.	143	Sulphate of copper.
102	Paper.	144	Sugar of milk.
103	Paints and pigments.	145	Tablets, motor
104	Paints remover.	146	Tallow.
105	Petrol.	147	Tape and Newar.
106	Pipes, asbestos cement.	148	Tapes, electric.
107	Pipes, fittings, iron.	149	Threads.
108	Pipes, hose canvas.	150	Thermometer.
109	Pipes, stoneware.	151	Tiles.
110	Pipes, steel galvanised.	152	Tin.
111	Pitch.	153	Turpentine.
112	Polishes, French.	154	Twines.
113	Polishes, Leather.	155	Valve sluice.
114	Polishes, metal.	156	Varnish.
115	Powder, starch.	157	Water.
116	Pyroxide mixture.	158	Wax.
		159	Wheat.
		160	Wicks, lamp.
		161	Wires.
		162	Wood preservative.
		163	Wood screws.
		164	Zinc.

APPENDIX XVII.

(*Vide* paragraph 65 of the Report.)

List of Testing plant and Apparatus installed at the Government Test House, Alipore, Calcutta during the year 1938-39.

ENGINEERING LABORATORIES.

1. One—Mini model versa vice.
2. One—50 tons capacity hydraulic press.

WORKSHOP.

1. One—Belt sanding machine.
2. One—Shearing machine.
3. One—Combination grinder and polishing machine.

ELECTRICAL LABORATORIES.

1. One—A. C. and D. C. ammeter, switchboard, pattern, type BK, range 0—20 amps.
2. One—Weston ammeter with 2, 10, 20, 50 and 200 amps. ranges.
3. One—One ohm standard resistance, Leeds and Northrup.
4. One—Wheatstone bridge with one galvanometer, Leeds and Northrup.
5. One—Weston 300/15/3 volt voltmeter.
6. One—Measuring miscroscope, vernier and accessories.
7. One—Thyraton automatic voltage regulator (which replaced the tyrril regulator supplied originally with the 20 K. W. motor alternator set).
8. One—Weston model 327 current transformer.
9. One—Elliot single-phase power factor meter, portable dynamometer pattern.
10. One—Motor driven high velocity blower.

I. C. ENGINE LABORATORY.

1. One—Noris tachometer.
2. One—Synchronous motor and one motor repulsion indicator switch.

CHEMICAL LABORATORIES.

1. One—Laboratory cast steel ball mill.
2. One—Ceramic ball mill.
3. One—Air oven.
4. Six—Vertical paint testing racks.
5. One—Exposure test fence.
6. One—Copper still for distilled water.
7. One—Willard battery, 12 volts.
8. One—Machine for preparing paint and varnish films of controlled and uniform thickness.

OIL LABORATORY.

1. One—Turbidimeter.

AIR CONDITIONED ROOM.

1. One—Cathetometer with accessories.

DRY CELL LABORATORY.

1. One—Zinc can bending machine.
2. One—Zinc can soldering jig.
3. One—Zinc can grooving machine.
4. Two—Punches.
5. One—Dry cell testing apparatus.

APPENDIX XVII

(*Vide paragraph 4 of the Report.*)

List of Equipment ... installed at the Government Tool Room, Training Centre ... for the year 1959-60.

I. C. ENGINE LABORATORY.

1. One—Bench [illegible]
2. One—Fuel injection pump test bench ... without measuring device

CHEMICAL LABORATORIES.

1. One—Laboratory cum store [illegible]
2. One—Chemical balance
3. One—Air pump
4. Six—Vacuum gauge testing [illegible]
5. One—[illegible] [illegible]
6. One—Copper still for distilled water
7. One—[illegible] testing [illegible]
8. One—[illegible] of [illegible] point ... [illegible] ... Machines

OIL LABORATORY.

1. One—Refractometer

AIR CONDITIONED ROOM.

1. One—Cold-chamber [illegible]

DRY CELL LABORATORY.

1. One—Cartridge bending machine
2. One—Zinc can soldering [illegible]
3. One—Zinc can [illegible] machine
4. Two—Tumblers
5. One—Dry cell testing apparatus

ENGINEERING LABORATORIES.

1. One—[illegible] [illegible]
2. One—[illegible] [illegible]

WORKSHOP.

1. One—Power cutting machine
2. One—[illegible] machine
3. One—[illegible] and [illegible] machine

ELECTRICAL LABORATORIES.

1. One—A.C. and D.C. [illegible] switch board ... [illegible]
2. One—[illegible] [illegible] ... and D.C. [illegible]
3. One—One ... [illegible] ... and Earthing
4. One—[illegible] ... switch board [illegible]
5. One—[illegible] [illegible]
6. One—[illegible] [illegible] ... and [illegible]
7. One—[illegible] [illegible] ... [illegible] ... [illegible]
8. One—[illegible] [illegible] ... [illegible]
9. One—[illegible] ... portable [illegible]
10. One—[illegible] [illegible]

APPENDIX XVIII.

Income and Expenditure Account of the Indian Stores Department for the years 1935-36, 1936-37, 1937-38 and 1938-39. (Vide *paragraphs 7 and 72 of the Report.*)

Particulars.	Amount.											
	1935-36.			1936-37.			1937-38.			1938-39.		
	Commercial.	Non-Commercial.	Total.	Commercial.	Non-Commercial.	Total.	Commercial.	Non-Commercial.	Total.	Commercial.	Non-Commercial.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. By 1% purchase fees ..	5,55,071	..	5,55,071	5,05,689	..	5,05,689	6,83,981	..	6,83,981	6,78,008	..	6,78,008
2. By 1% inspection fees ..	4,73,489	..	4,73,489	4,80,842	..	4,80,842	6,12,637	..	6,12,637	6,37,487	..	6,37,487
3. By recoveries on account of fees for tests, inspections, etc., made from Government Departments, Railways, private firms and individuals	6,92,506	85,612	7,78,118	5,30,601	90,010	6,20,611	6,32,134	79,759	7,11,893	6,85,099	99,405	7,84,504
4. By miscellaneous receipts ..	47,821	514	48,335	54,713	353	55,066	60,012	1,655	61,667	61,292	702	61,994
*5. By charges for tests, etc., adjusted between commercial and non-commercial branches of the Department ..	(a) 8,074	(a) 1,14,419	..	(a) 1,811	(a) 1,27,912	..	(a) 728	(a) 1,31,514	..	(a) 863	(a) 1,22,996	..
Total receipts ..	17,76,961	2,00,545	18,55,013	15,73,656	2,18,275	16,62,208	19,89,492	2,12,928	20,70,178	20,62,749	2,23,103	21,61,993
1. Pay of Officers	6,12,322	1,34,412	7,46,734	6,04,705	1,32,740	7,37,445	6,28,737	1,38,016	7,66,753	6,06,155	1,33,058	7,39,213
2. Pay of Establishment ..	6,17,006	1,84,301	8,01,307	6,47,221	1,93,326	8,40,547	6,65,303	1,98,727	8,64,030	6,79,047	2,02,832	8,81,879
3. Allowances	1,65,371	24,711	1,90,082	1,65,596	24,744	1,90,340	1,73,114	25,868	1,98,982	1,59,941	23,899	1,83,840
4. Grants-in-aid	..	..	..	..	..	..	..	..	..	..	..	..
(c) 5. Contingencies— (a) Expenditure in India ..	1,53,724	48,508	2,02,232	1,50,120	46,872	1,96,992	1,93,841	63,706	2,57,547	1,99,142	64,383	2,63,525
Deduct amount treated as capital expenditure ..	870	10,996	11,866	3,351	695	4,046	7,278	3,612	10,890	4,016	2,691	6,707
Total ..	1,52,854	37,512	1,90,366	1,46,769	46,177	1,92,946	1,86,563	60,094	2,46,657	1,95,126	61,692	2,56,818
(b) Expenditure in England— (i) On stores	..	9,639	9,639	722	409	1,131	4,433	506	4,939	363	650	1,013
(ii) On inspections on behalf of non-commercial civil Deptts. of the Central Government	573	..	573	3,727	..	3,727	905	..	905	1,926	..	1,926
Total contingencies (excluding amount treated as capital expenditure)	1,53,427	47,151	2,00,578	1,51,218	46,586	1,97,804	1,91,901	60,600	2,52,501	1,97,415	62,342	2,59,757
6. Works (including petty constructions and repairs) ..	5,193	2,293	7,486	4,878	2,296	7,174	5,311	2,448	7,759	4,745	1,903	6,648
Deduct amount treated as capital expenditure ..	320	..	320	..	..	..	110	..	110	700	..	700
Total ..	4,873	2,293	7,166	4,878	2,296	7,174	5,201	2,448	7,649	4,045	1,903	5,948
7. Loss or gain by exchange (included with the cost of stores in the Profit and Loss Account)	..	—16	—16	—4	..	—4	—23	..	—23	..	—6	—6
8. Total direct expenditure charged to Indian grant (excluding expenditure in England)	15,53,616	3,94,209	19,47,825	15,72,516	3,99,978	19,72,494	16,66,283	4,28,765	20,95,048	16,49,030	4,26,069	20,75,099
Deduct amount treated as capital expenditure and loss or gain by Exchange	1,190	10,980	12,170	3,347	695	4,042	7,365	3,612	10,977	4,716	2,685	7,401
9. Net direct Expenditure ..	15,52,426	3,83,229	19,35,655	15,69,169	3,99,283	19,68,452	16,58,918	4,25,153	20,84,071	16,44,314	4,23,384	20,67,698
10. Expenditure in England [item 5(b)]	573	9,639	10,212	4,449	409	4,858	5,338	506	5,844	2,289	650	2,939
11. Leave salary and Overseas Pay paid in England ..	54,418	19,120	73,538	52,692	18,514	(b) 71,206	25,375	8,915	34,290	29,007	10,191	39,198
12. Pensionary charges ..	59,233	11,282	70,515	59,486	11,331	70,817	60,268	11,480	71,748	60,137	11,455	71,592
13. Government contribution to Provident Fund	45,079	14,236	59,315	45,523	14,376	59,899	46,776	14,771	61,547	44,734	14,127	58,861
14. Interest on capital outlay ..	27,727	36,754	64,481	27,148	35,987	63,135	27,791	36,838	64,629	28,491	37,766	66,257
15. Depreciation charges ..	14,038	11,958	25,996	13,645	11,624	25,269	13,393	11,409	24,802	13,350	11,373	24,723
16. Stationery and Printing ..	33,906	7,953	41,859	47,174	11,065	58,239	53,922	12,648	66,570	48,048	11,271	59,319
17. Cost of Audit and Accounts	2,20,791	24,532	2,45,323	2,34,018	26,002	2,60,020	2,34,081	26,009	2,60,090	2,27,636	25,293	2,52,929
18. Expenditure on Retrenched Personnel	..	..	..	..	..	..	..	..	..	..	..	..
*19. Services rendered by non-commercial branches to commercial branches and *vice versa*	(a) 1,13,918	(a) 8,575	..	(a) 1,20,642	(a) 9,081	..	(a) 1,22,985	(a) 9,257	..	(a) 1,15,189	(a) 8,670	..
Total expenditure ..	21,22,109	5,27,278	25,26,894	21,73,946	5,37,672	25,81,895	22,48,847	5,56,986	26,73,591	22,13,195	5,54,180	26,43,516
Deficit	3,45,148	3,26,733	6,71,881	6,00,290	3,19,397	9,19,687	2,59,355	3,44,058	6,03,413	1,50,446	3,31,077	4,81,523

*(a) As these figures represent adjustments within the Department they have not been shown in the column representing totals for the Department as a whole.

(b) Includes Rs. 22,907 on account of the deputation pay of Sir James Pitkeathly and Mr. H. F. Davy in connection with the work of the London Stores Department.

(c) The figures for 1935-36 and 1936-1937 include expenditure under the head "Supplies and Services" which was abolished from 1937-38 and transferred to "Contingencies".

Note :—Items 5(b) (ii) and 12 to 18 above for 1937-38 and 1938-39 and 10 to 18 for previous years refer to expenditure included *pro forma*. The rent of Central Public Works Department buildings occupied by the Indian Stores Department at Simla, Delhi and Calcutta is not included in the account. The income shown on the credit side of the account represents amount actually realised and *pro forma* credits for services rendered to the non-commercial departments of the Central Government against which no charges are made.

Certified that audit has obtained all the information and explanations required, that the statement of affairs has been drawn up according to the existing orders and presents a correct view of the affairs of the Indian Stores Department according to the best of my knowledge and belief and the information supplied to me from time to time.

R. GOPAL,

Audit Officer, Indian Stores Department.

The 26th June 1939.

APPEND[illegible]

Statement of Expenditure declared of the Indian Stores Department for the years 19[illegible]

[illegible]	Com-mercial.	Total.	Non-Com-mercial.	Com-mercial.	Particulars.
			1930-31 [illegible]		
Rs.	Rs.	Rs.	Rs.	Rs.	
[illegible]	[illegible]	[illegible]	..	[illegible]	1. By departmental fees ..
[illegible]	[illegible]	[illegible]	..	[illegible]	2. By [illegible] ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3. [illegible] Department [illegible] and Railways ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4. By miscellaneous receipts ..
	(a) [illegible]	..	(a) [illegible]	[illegible]	*5. By [illegible] adjusted between commercial and non-commercial branches of the Department ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Total Receipts ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1. Pay of Officers ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2. Pay of Establishment ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3. Allowances ..
			..		4. Grants-in-aid ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[c] 5. Contingencies— (a) Expenditure in India ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] capital expenditure ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Total ..
					(b) Expenditure in England—
[illegible]	[illegible]	[illegible]	[illegible]		(i) On stores .. (ii) [illegible]
[illegible]	[illegible]	[illegible]		[illegible]	[illegible] capital expenditure ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Total contingencies (including amount treated as capital expenditure) ..
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6. [illegible] (works and repairs) ..
	[illegible]				Deduct amount treated as capital expenditure [illegible]

APPENDIX XIX.

Statement of the work done by the Indian Stores Department, year by year, since its constitution. (Vide *paragraphs 2 and 3 of the Report.*)

Year.	Value of textile stores and leather goods purchased.	Value of Engineering and miscellaneous stores purchased.	Total value of stores purchased.	Amount of stores inspected and charged on value.	Tonnage of stores inspected and charged on weight.	Tests and analyses carried out.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Tons.	Nos.
1921-22 (January-March 1922)	59,27,330	..	59,27,330	..	..	..
1922-23	1,64,78,305	..	1,64,78,305	1,42,79,333	1,07,648	5,744
1923-24	1,17,08,745	50,15,656	1,67,24,401	2,21,45,403	1,71,797	7,364
1924-25	1,33,26,953	1,25,84,188	2,59,11,141	2,13,73,382	2,51,760	9,989
1925-26	1,18,81,516	1,47,86,417	2,66,67,933	3,98,78,885	2,92,550	9,932
1926-27	1,62,86,293	2,35,95,952	3,98,82,245	5,19,88,643	3,36,368	12,354
1927-28	1,18,82,009	2,54,22,663	3,73,04,672	5,71,10,815	3,31,628	13,065
1928-29	1,16,24,973	2,44,23,101	3,60,48,074	5,42,33,106	2,18,764	12,953
1929-30	1,13,36,292	3,15,89,409	4,29,25,701	7,47,99,137	3,43,109	14,273
1930-31	98,37,157	2,78,45,539	3,76,82,696	6,61,19,542	3,28,020	16,256
1931-32	1,06,14,978	2,53,85,028	3,60,00,006	4,84,21,867	3,10,504	14,401
1932-33	79,12,155	2,51,78,748	3,30,90,903	3,54,07,609	1,56,203	11,512
1933-34	85,55,361	2,74,38,774	3,59,94,135	4,46,65,505	2,54,833	15,499
1934-35	95,85,357	3,80,50,894	4,76,36,251	5,36,35,655	3,23,862	16,597
1935-36	99,22,244	4,59,82,622	5,59,04,866	6,76,31,556	3,95,008	19,060
1936-37	1,15,12,129	5,33,87,884	6,49,00,013	5,98,18,856	3,36,375	18,228
1937-38	1,58,13,144	6,31,18,234	7,89,31,378	7,48,32,187	4,35,609	22,902
1938-39	2,88,19,446	5,88,91,969	8,77,11,415	8,15,46,633	4,17,557	24,763
Total from 1st January 1922 to 31st March 1939 ..	22,30,24,387	50,26,97,078	72,57,21,465	86,78,88,114	50,11,595	2,44,892

NOTE.—For Fees earned see Appendix XVIII.

INDEX.

INDEX—*contd.*

Paragraphs.

Paragraphs.

M.—*contd.*

INDEX—*concld.*

R—*contd.*

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